VOLUME XXV

NUMBER FOUR

THE NATIONAL GEOGRAPHIC MAGAZINE

APRIL, 1914

CONTENTS

Castles in the Air

WITH 67 ILLUSTRATIONS AND MAP — JOHN CLAUDE WHITE

16 Pages in Photogravure

The New Home of the National Geographic Society

WITH ILLUSTRATIONS

PUBLISHED BY THE
NATIONAL GEOGRAPHIC SOCIETY
HUBBARD MEMORIAL HALL
WASHINGTON, D.C.

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To carry out the purpose for which it was founded twenty-three years ago, namely, "the increase and diffusion of geographic knowledge," the National Geographic Society publishes this Magazine. All receipts from the publication are invested in the Magazine itself or expended directly to promote geographic knowledge and the study of geography. Articles or photographs from members of the Society, or other friends, are desired. Contributions should be accompanied by an addressed return envelope and postage, and be addressed:

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FINAL DATE FOR SUBSCRIPTIONS BEFORE THE ADVANCE IN PRICE WILL BE MAY 28TH

The two old sayings which preach promptness,

"Strike while the iron is hot" and

"Make hay while the sun shines," take it for granted that every one knows how soon iron cools and how soon rain comes. But some people are surprised when the spirit of these adages is expressed in the suggestion that it would be judicious to purchase the new Encyclopaedia Britannica today.

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THE public has been observing, with satisfaction, month after month, that the price of the work is very moderate, and that the system of partial payments makes it easy for almost anybody to obtain the work.

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Plain rules of business, as inexorable as the laws of nature, make it inevitable that the terms upon which the new Encyclopaedia Britannica will be sold after the next few weeks shall be such as to yield a profit commensurate with the very large investment ($1,500,000) which the production of this new summary of all human knowledge necessitated.

It could not have been so good a book as it is if it had been made with so small a capital investment as to warrant its being permanently sold on the present terms.

Those who purchase the book later, instead of availing themselves of the present opportunity, will pay from $29 to $50 more than the present low prices, and will pay that higher price in cash.

When the haymaker neglects the chance the brief sunshine gives him, he is at any rate indulging himself by postponing hard work. But the reader who defers the acquisition of the new Encyclopaedia Britannica is, for some time, denying himself the use of the most delightful and the most serviceable of books—foregoing a pleasure that may be his today.

On the last page of this notice stands the order form. A name inscribed in the space provided for it there is a name added to those who are, at the present moment, *striking* while the iron is hot and *making hay* while the sun shines.

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(See next three pages)

THE MEANING *of the* CHANGE—Why the Price *of the*

MANY readers, when they see this announcement for the first time, will wonder **why** the sale, direct to the public, of the new Encyclopaedia Britannica is to be discontinued, **why** the instalment system is to be abandoned, and **why** the price is at the same time to be increased. These three queries are virtually the same, and may be condensed into one: "**Why** should it suddenly be made much more difficult for the average man to obtain the book?"

The question is quite justified. The reader is not asking a grocer how he buys and sells sugar, but asking those who have assumed the grave responsibility of controlling an educational work of undeniable usefulness to all English-speaking people, and who are virtually in the position of trustees or custodians, why they find it necessary to increase its price and impose new conditions of sale.

In the first place, these custodians are in the unusual position of having **created the property** they are administering. Only a little while ago, the words in the book were unwritten, the thoughts not formulated; the paper was flax in the fields, the leather on the backs of flocks.

MAKING THE BOOK
A Great Responsibility

The Encyclopaedia Britannica has been, for nearly a century and a half, of great service in the dissemination of useful knowledge, and by all intelligent Americans has been regarded with genuine pride. But it is not a perennial. Each edition must in the course of years be replaced by a better one. **The advance of knowledge** effected by a new generation, the new events, and the new view of old events must be adequately represented. And the taxpayer does not assume the task of providing the money to make and distribute a new edition of this indispensable book.

The task involves two risks—one moral and one financial:

If an unscholarly or inaccurate edition were made, its undertakers would be justly execrated by the public. And if they do their work **well** and in accordance with the high standard of preceding editions, they are entitled to such recognition as the press, the general public, and also the foremost educational authorities accorded to the editorial staff upon the appearance of the new 11th edition.

SELLING THE BOOK
An Enormous Investment

The financial risk is very great—nowadays much greater than when the book was smaller; when the volumes were issued one by one and sold for cash, at the rate of one or two a year. The contents of the 11th edition of the Encyclopaedia Britannica (40,000 articles, 44,000,000 words) were prepared, at an expense of $1,500,000, as an undivided whole, so that all the volumes are of uniform date. While this radical departure from previous methods enabled the editors to make a much better Encyclopaedia Britannica than ever before, it was the most expensive method, but **the public was bound to reap the benefit of it.** In fact, it is not too much to say that the whole world of scholarship in the first instance, and the reading public in general, are under a lasting obligation, in that a vast sum was paid out to make the Encyclopaedia Britannica a more practical work of reference than ever before and one more convenient to use—and it was then sent to any subscriber who paid only $5.00 with his order.

This trifling initial payment is a mere fraction of the manufacturing cost—quite apart from the literary cost and the cost of selling—in respect of each set that goes out to subscribers. It would not be beside the mark to state that at one time more than $4,000,000 was locked up in the new Encyclopaedia Britannica. To recover these various costs would be a matter of years, inasmuch as every set delivered to subscribers on the deferred payment system would automatically call for an ever-increasing capital outlay, and would entail enormous financial responsibilities.

THE PLAN OF SALE
In Two Periods

Such being the conditions of the problem, it was solved by the adoption of a plan of sale, which would assure a swift recognition and appreciation of the book while it was new. It was determined that there should **be two distinct periods** of distribution:

First, **a rapid sale on monthly payments** and at a low price,—direct to the public.

Second, **a slow but steady sale** through agents and booksellers, for cash payment, at a higher price.

It was foreseen that the first sale would not yield a fair percentage of profit. So far, it would not be, commercially speaking, "good business." It would involve the heavy interest charges and the large organization which attend selling for instalments. To continue indefinitely that system would make the investment in paper, printing, and binding so great that the operation would become unwieldy. **But the instalment sale would create a demand for the book which could not be satisfied at the time;** and that demand would afterward be satisfied by a prolonged sale under ordinary book-selling conditions, at the higher price and at a substantial profit.

That was the method originally arranged for the **sale of the new edition.** The first of the two periods of sale, now nearly at an end, has already justified the **expectation that it would quickly establish the reputation of the 11th edition in all parts of the world.** And, after this final subscription sale, anyone who wants the Encyclopaedia Britannica must buy it and pay for it as he buys and pays for any other book—but it will cost **him from $29.00 to $50.00 more,** according to the binding.

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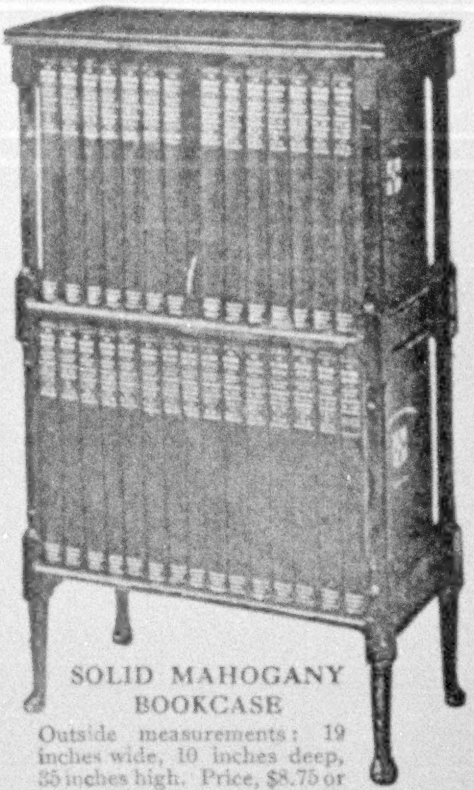

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But no one can foretell the probable sale of an indispensable book. The wide publicity given to the announcement of the withdrawal of the monthly payment privilege and the advance in the price has been followed by an increase of 125 per cent in the daily sales. Should this continue, *another printing* of the work will prove to be necessary. The printing of a comparatively small edition of 5,000 sets (145,000 volumes) requires the uninterrupted running of 16 cylinder presses for a period of six months. India paper, furthermore, is only supplied by one mill, while the production of the skins for binding will involve a contract for leather far beyond the ordinary demands upon the leather manufacturers.

Will it be necessary for the publishers to print the Encyclopaedia Britannica again before the present sale ends? How many more sets will be required before May 28th, when the sale will be closed?

These are questions which cannot be answered now—and they can *only be answered within the next few weeks by subscribers themselves.*

Those who make use of the order form accompanying this notice *will be sure of prompt delivery.* But prompt delivery cannot be guaranteed beyond a certain number of orders, and subscribers who delay sending their orders until May, may be informed that they will have to wait until October or November before the books will reach them.

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The work has all the comprehensiveness of an ideal library, the quick accessibility as to contents of an ordinary dictionary, and (in the convenient India paper, flexible leather-bound format) the unprecedented quality in a work of reference of being as easily handled as a magazine.

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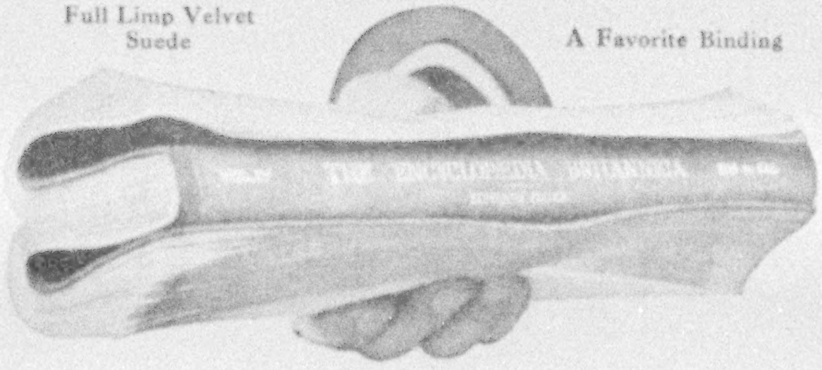

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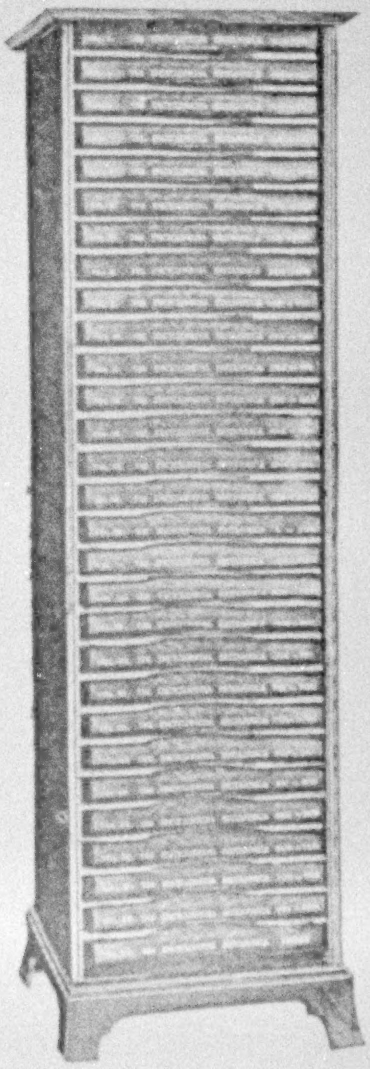

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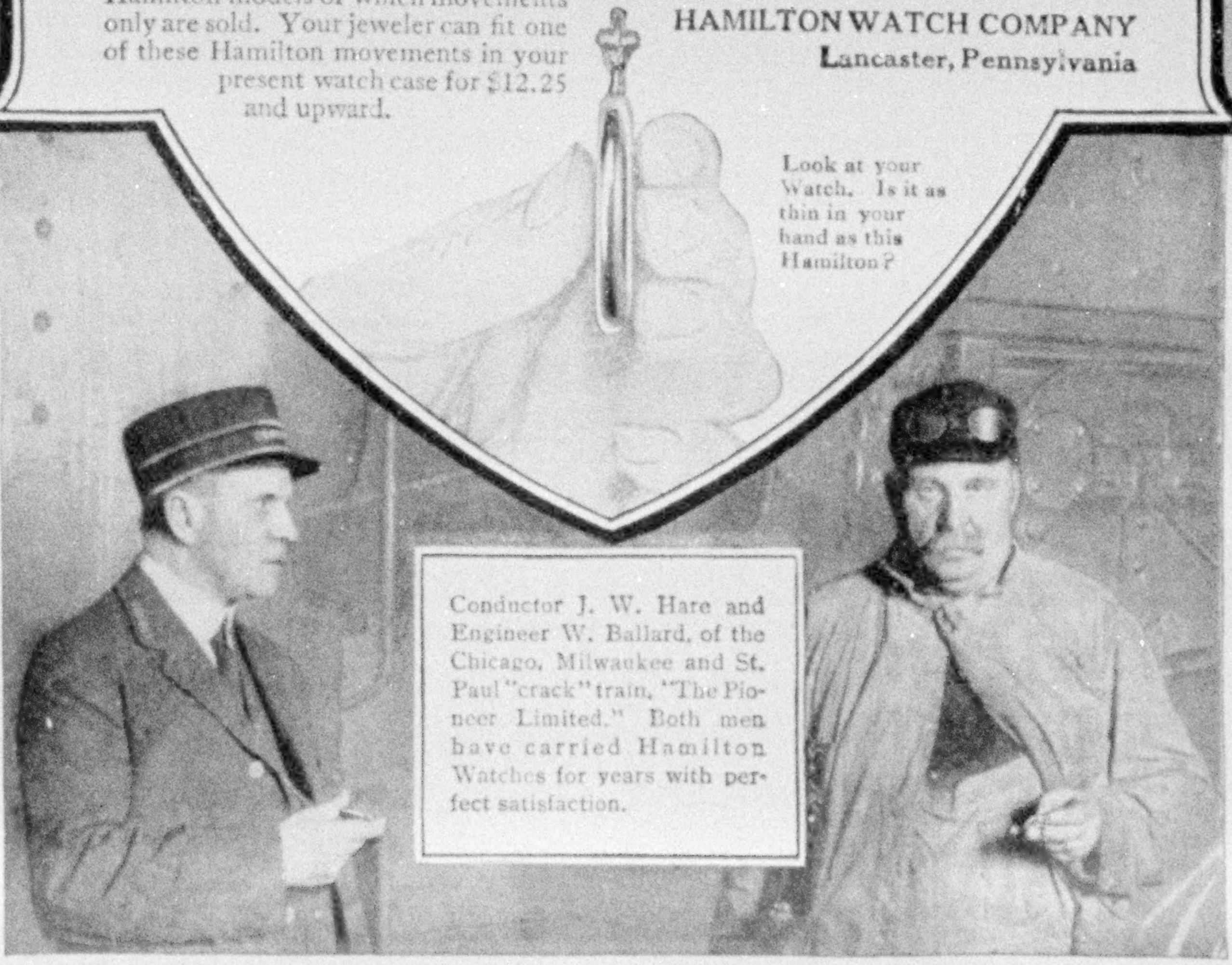

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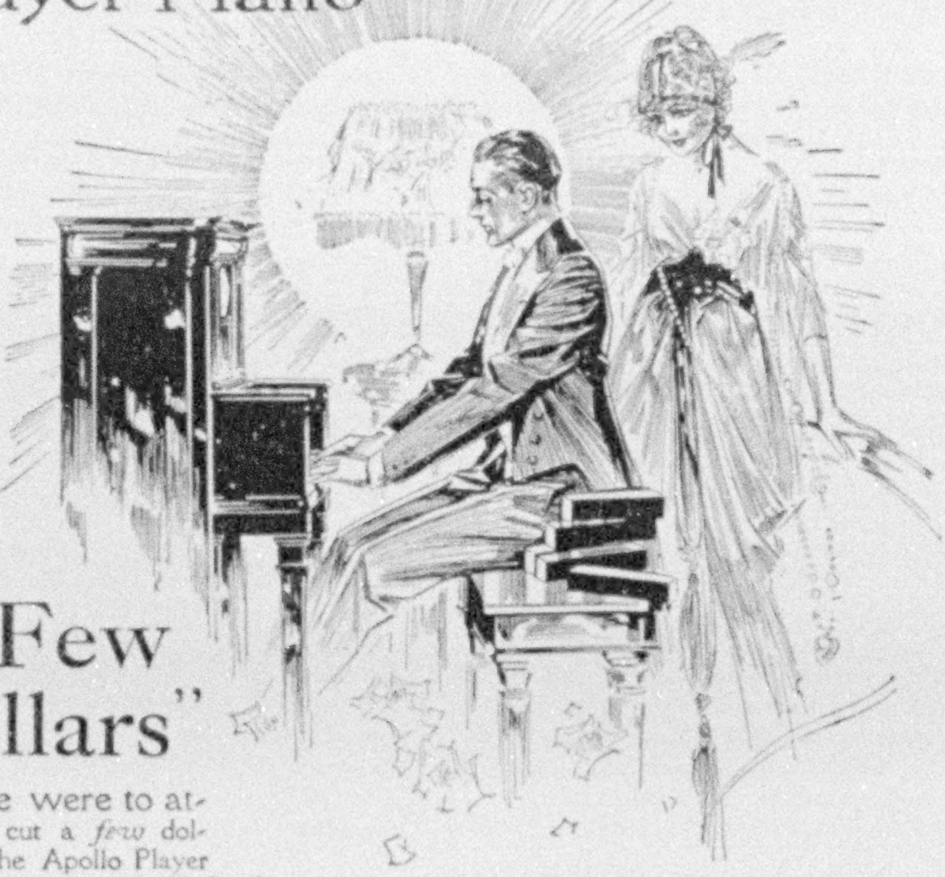

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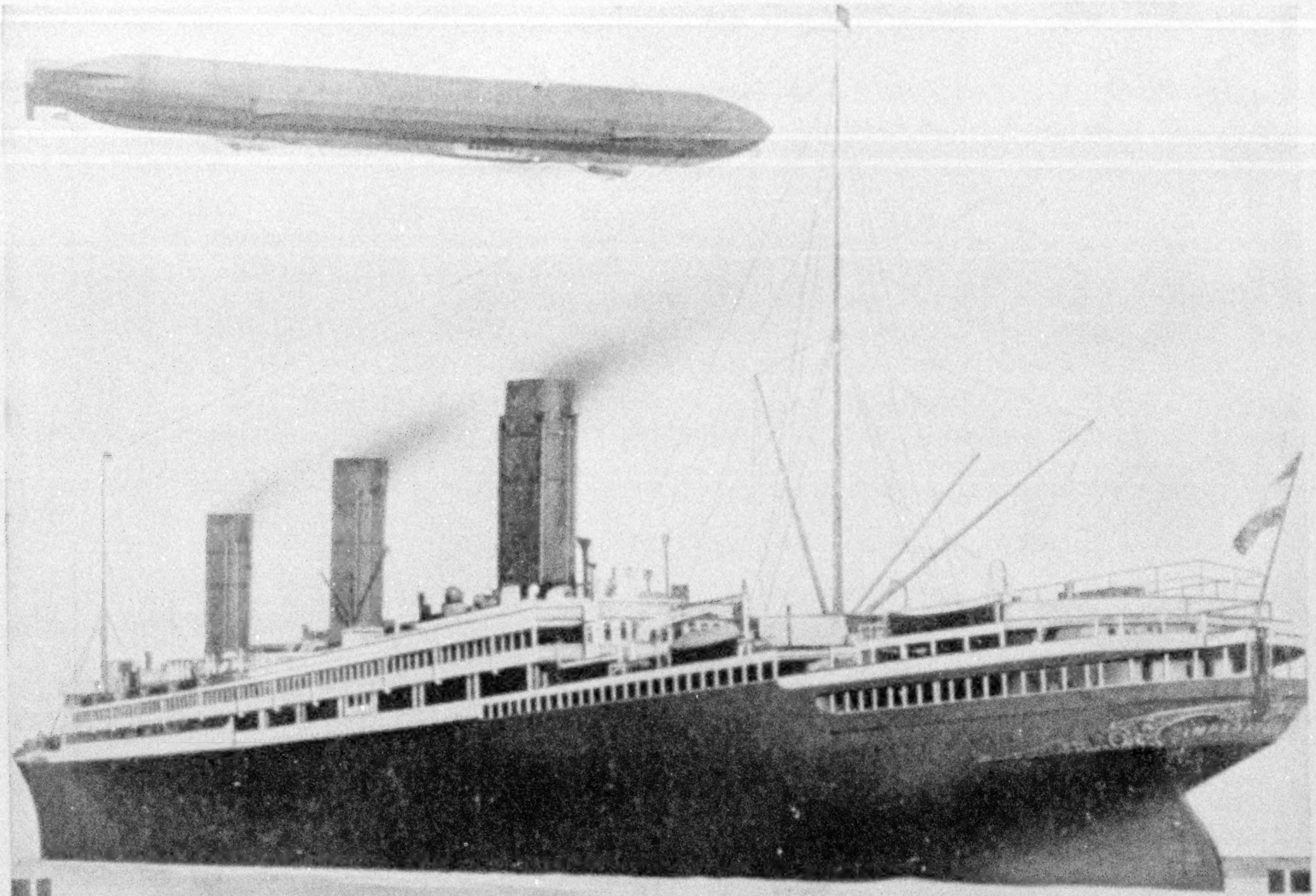

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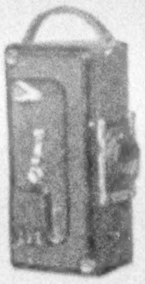

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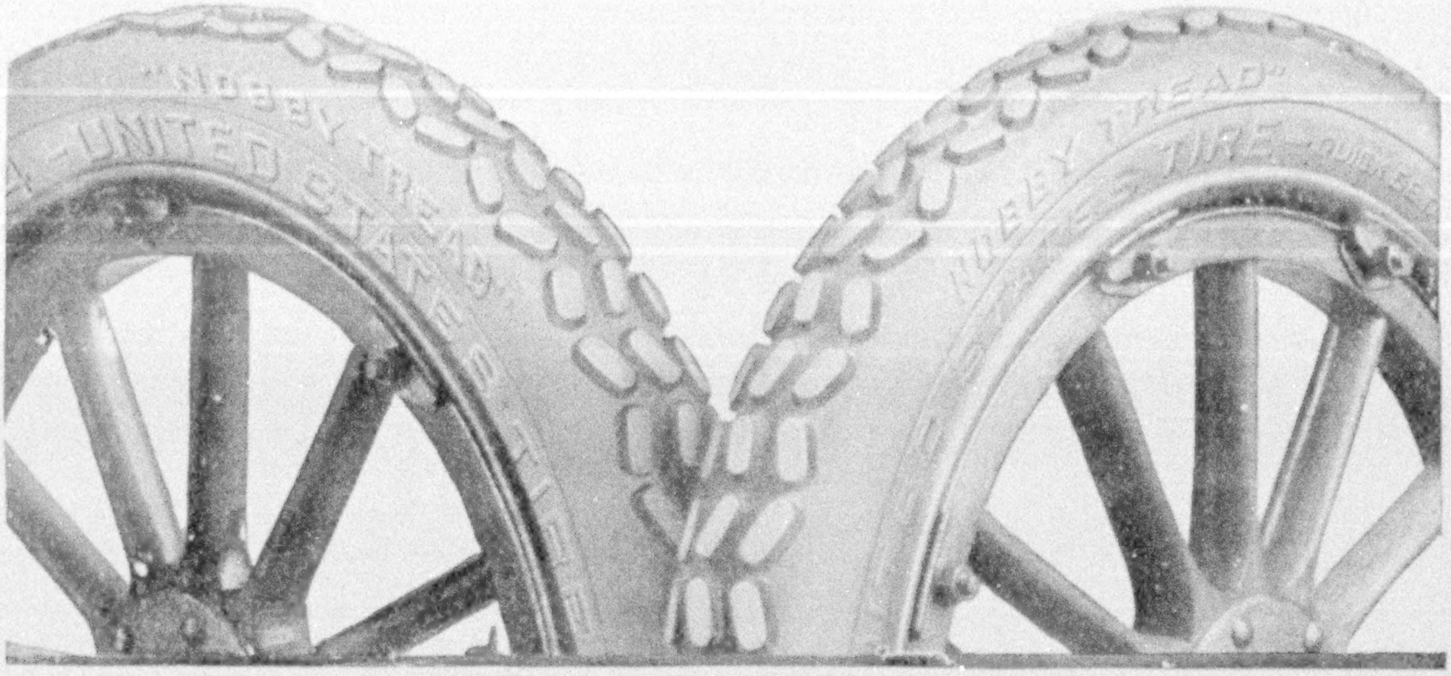

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The cost of these materials unassembled is only 45% of the cost of constructing the telephone plant.

Poles
enough to build a stockade around California—12,480,000 of them, worth in the lumber yard about $40,000,000.

Telephones
enough to string around Lake Erie—8,000,000 of them, 5,000,000 Bell-owned, which, with equipment, cost at the factory $45,000,000.

Wire
to coil around the earth 621 times—15,460,000 miles of it, worth about $100,000,000, including 260,000 tons of copper, worth $88,000,000.

Switchboards
in a line would extend thirty-six miles—55,000 of them, which cost, unassembled, $90,000,000.

Lead and Tin
to load 6,600 coal cars—being 659,960,000 pounds, worth more than $37,000,000.

Buildings
sufficient to house a city of 150,000—more than a thousand buildings, which, unfurnished, and without land, cost $44,000,000.

Conduits
to go five times through the earth from pole to pole—225,778,000 feet, worth in the warehouse $9,000,000.

People
equal in numbers to the entire population of Wyoming—150,000 Bell System employes, not including those of connecting companies.

The poles are set all over this country, and strung with wires and cables; the conduits are buried under the great cities; the telephones are installed in separate homes and offices; the switchboards housed, connected and supplemented with other machinery, and the whole Bell System kept in running order so that each subscriber may talk at any time, anywhere.

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One Policy *One System* *Universal Service*

VOL. XXV, NO. 4 WASHINGTON APRIL, 1914

THE NATIONAL GEOGRAPHIC MAGAZINE

CASTLES IN THE AIR

Experiences and Journeys in Unknown Bhutan

BY JOHN CLAUDE WHITE, C. I. E.

LATE POLITICAL OFFICER IN CHARGE OF SIKKIM, BHUTAN, AND SUCH PARTS OF TIBET AS FELL WITHIN THE SPHERE OF BRITISH INFLUENCE.
AUTHOR OF "SIKKIM AND BHUTAN"

With Photographs by the Author

IT HAS been my good fortune to have had exceptional facilities for exploring the hitherto very little known, but most interesting, native state of Bhutan, which lies in the heart of the Himalaya Mountains, on their southern slopes, about 250 miles northeast of Calcutta (for map see page 457).

Though naturally an unruly and turbulent country, there had been no raids into British territory for many years, owing to the good government and strength of character of the present ruler, now Maharaja Sir Ugyen Wang-chuk, K. C. S. I., K. C. I. E. By correspondence I had kept up the friendly intercourse begun by my predecessor and friend, the late Mr. A. W. Paul, and on meeting Sir Ugyen for the first time in the Chumbi Valley, at time of the Lhasa Expedition, our acquaintance ripened into firm friendship on both sides.

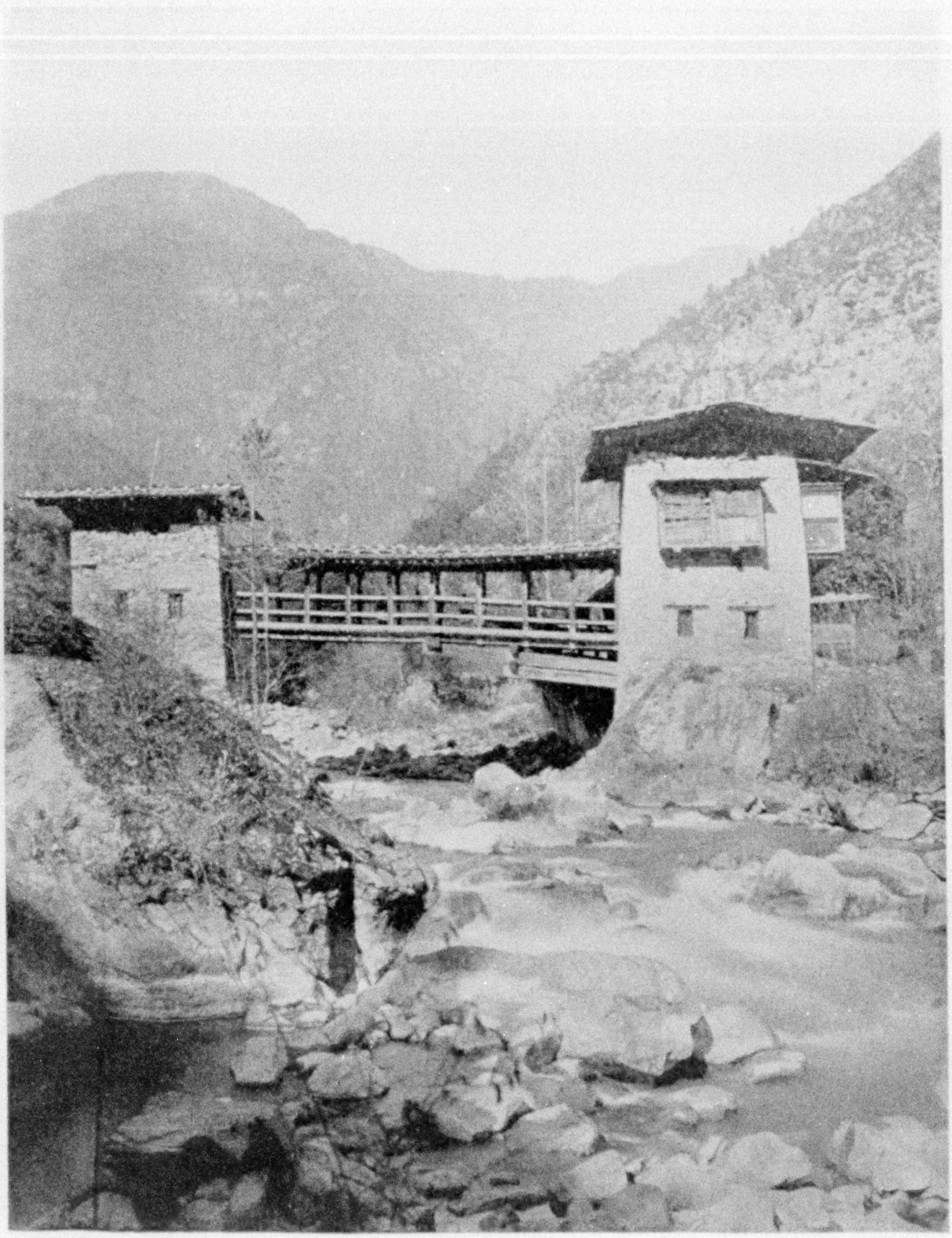
He extended to me a most pressing invitation to visit his country, and when I was able to do so, a little later on, he gave me every possible assistance, and consequently during the several journeys I made there I was enabled to see everything of interest and to gather information otherwise impossible to procure. Sir Ugyen, his council, the Deb Raja, and all the lamas (monks) combined to make my visits both most interesting and enjoyable and treated me royally throughout.*

*The first of my journeys into Bhutan was toward the end of 1905, when I made my way down the Am-mo-chu Valley from Chumbi to the plains of India. In the following spring I was sent by the government of India to present the insignia of a Knight Commander of the Indian Empire to the Tongsa Penlop, and to do this I traveled from my headquarters, the residency at Gangtok, in Sikkim, crossing the Natu-la Pass to Chumbi via Hah, Paro, Tashi-cho-jong to Poonakha, and on to Tongsa and Byagha, and on my return journey from Tashi-cho-jong northward up the valley of the Tchin-chu into Tibet.

On another occasion I marched along the boundary between British India and Bhutan and from Dorunga across the Dangna-chu to Kanga and up the Kuru River. In the same year I also traveled from Dewangiri through Chungkar, Tashi-gong, Tashiyangtsi, across the Dong-la to Lhuntsi; Pangkha, Singhi-jong, and across the Bad-la into Tibet.

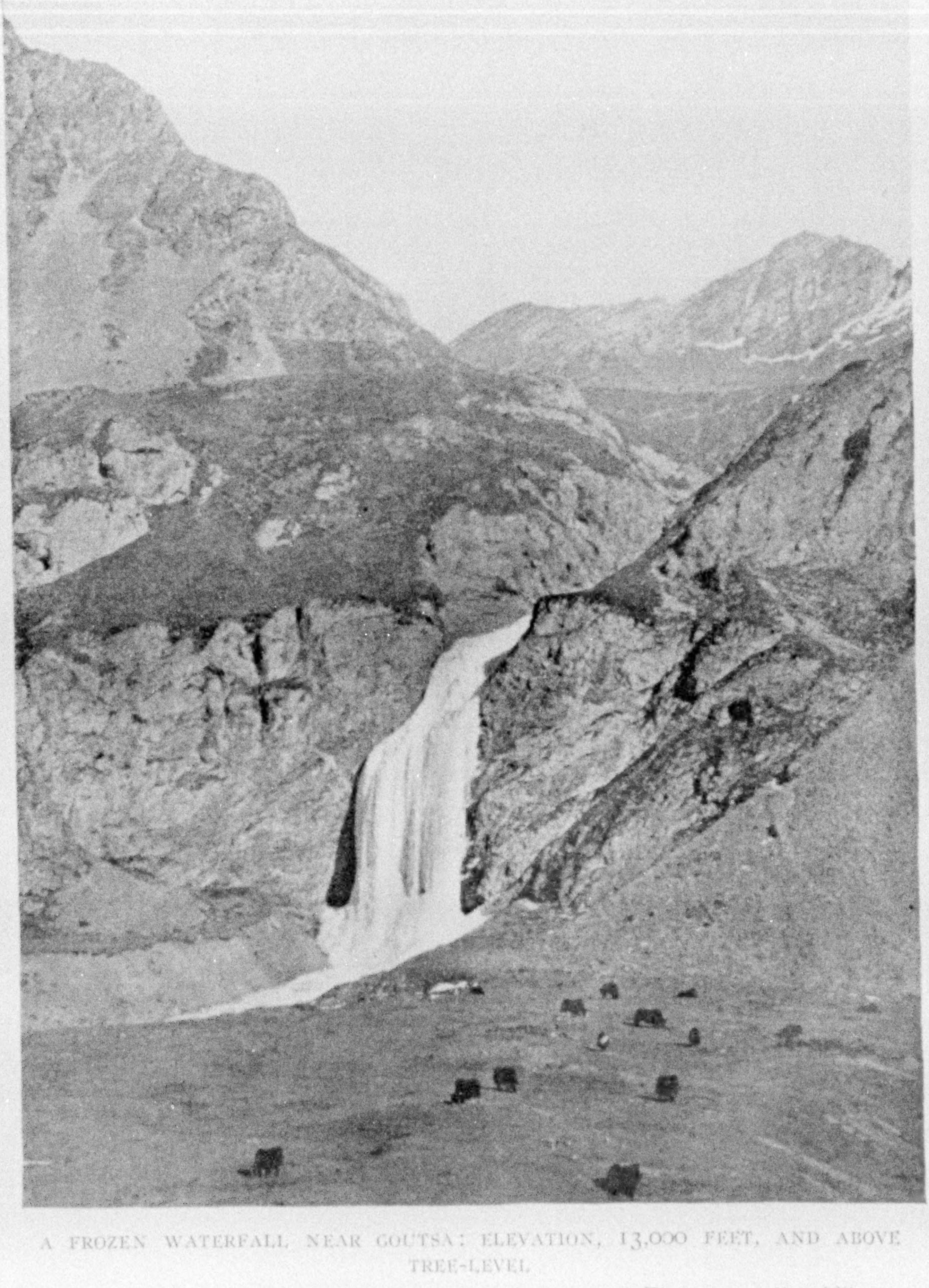
In 1907 a formal intimation was conveyed to the government of India that Sir Ugyen Wang-chuk, K. C. I. E., the Tongsa Penlop, was about to be installed as *gyalpo* (king), or Maharaja of Bhutan, and this was accompanied by a pressing invitation that I should personally be present, and to my great gratification I was deputed head of a mission representing the government of India at the ceremony. The mission traveled through Phari, in the Chumbi Valley, across the Temo-la to Paro, and by my old route to Poonakha, and then leaving my escort and companions I returned by a new and unknown route via Bite Jong and Dungna-Jong to Jaigoan, in the plains of India (see map, page 457).

XUM



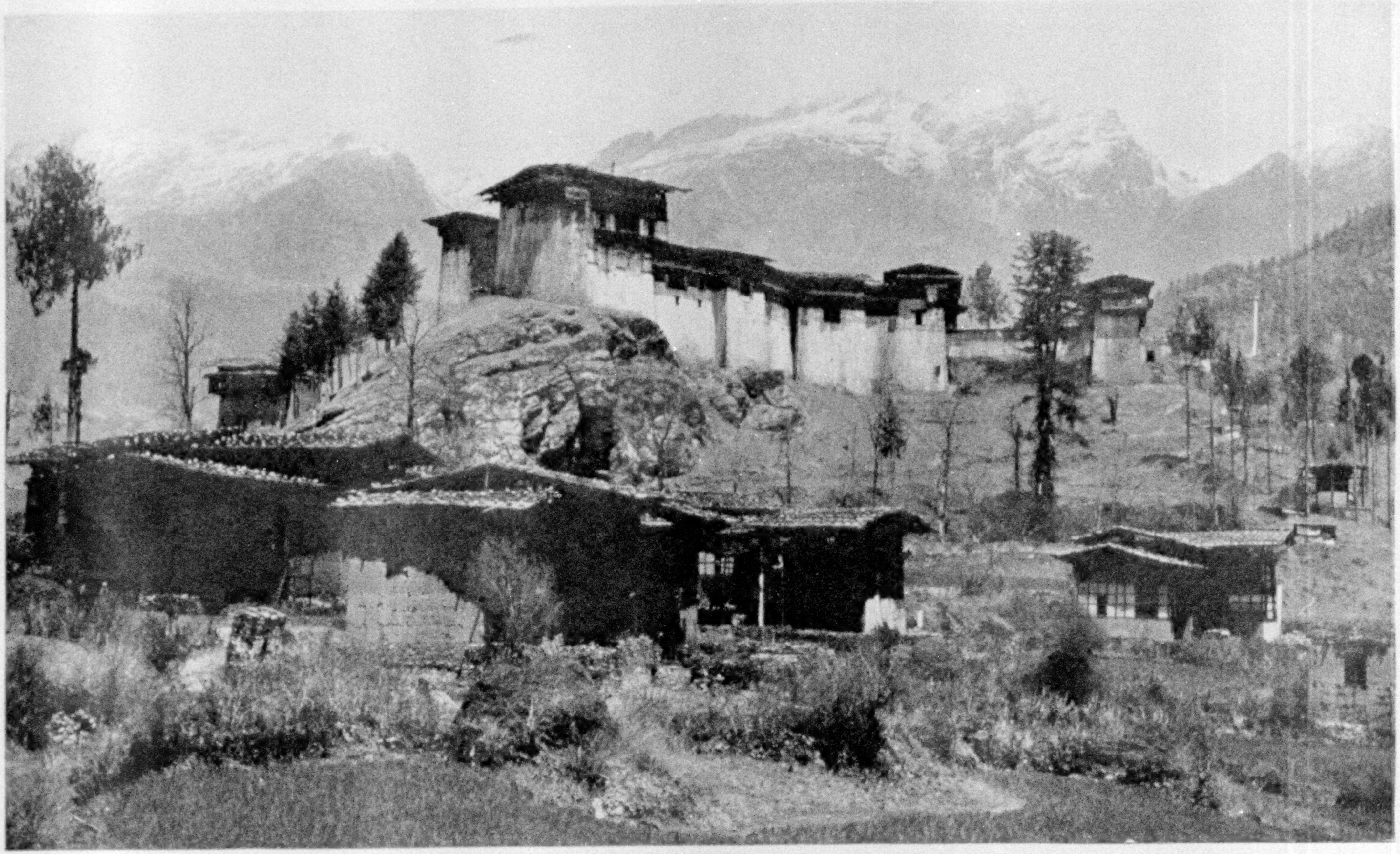
THE FIRST LARGE BRIDGE WE CROSSED AFTER ENTERING BHUTAN

It is built of squared pine logs, on the cantilever principle. A wooden shingle roof protects the timber from the elements and the ends are guarded by blockhouses. The cold was so great that this rushing torrent was frozen in a single night (see text, page 370).



A FROZEN WATERFALL NEAR GOUTSA: ELEVATION, 13,000 FEET, AND ABOVE TREE-LEVEL

This shows how intense the cold can be in these mountains. The surrounding hills are a favorite haunt of Burhel Ovis Nahura. Note yaks grazing in the foreground



THE FORTRESS OF DUG-GYE JONG, MAGNIFICENTLY SITUATED AMONG IDEAL SCENERY, ON A SPUR RUNNING INTO AND COMMANDING THE VALLEY. IT WAS ORIGINALLY BUILT TO PROTECT THIS ROUTE FROM POSSIBLE TIBETAN RAIDS (SEE PAGE 370)

It is impossible to find words to express adequately the wonderful beauty and variety of scenery I met with during my journeys, the grandeur of the magnificent snow peaks, and the picturesqueness and charm of the many wonderful jongs, or forts, and other buildings I came across; but I hope my photographs may give my readers some idea of what I saw.

A SPLENDID RACE

The Bhutanese are fine, tall, well-developed men, with an open, honest cast of face, and the women are comely, clean, and well dressed and excellent housekeepers and managers. Their religion is Buddhism and their language a dialect of Tibetan. The population of Bhutan is about 400,000.

My experience of the people is that they are universally polite, civil, and clean, and during the whole time I spent in the country I only saw one drunken man. I had every opportunity of judging, as I entered numerous houses and temples in all parts of the country, and invariably found them clean and tidy. In many of the houses the floors were washed and polished, and the refreshments they hospitably pressed on me were served in spotlessly clean dishes.

The clothes of the higher officials were always immaculate, their brocades and silks fresh and unstained in any way, and even the coolies were a great contrast to the usual Tibetan or Darjeeling coolie.

The amount of labor expended on their irrigation channels shows that they are an industrious and ingenious people (see pages 401 and 428). Their houses are all large and substantially built.

In the courtyards we found retainers busily occupied in various trades, while the women of the household spin and weave and make clothes for the men-folk in addition to their ordinary duties. A great part of the country is under cultivation, and they raise sufficient crops to support the whole population, including the lamas, who are a great burden to the State (see also page 394).

The men were cheery and jovial, always ready, at the end of a day's march, when we had settled into camp, for a game at quoits, shooting at a target with arrows, jumping, etc. They are fond of their beer, but there is no great harm in that, and small wonder they are thirsty after toiling up the hills with their loads. I have drunk many a choonga (bamboo mug) full of the mild ale myself and been none the worse for it.

WHAT BHUTAN IS LIKE

Bhutan lies between 26° 30′ and 28° 30′ north latitude and 88° 45′ and 92° 15′ east longitude, and is bounded by British India on the south, the native state of Tawang, subject to Tibet, on the east, Tibet on the north, and Sikkim and the British district of Darjeeling on the west.

The mountain system may be most easily described as a series of parallel ranges running approximately in a southerly direction from the main ridge of the Himalayan range, where the peaks attain altitudes up to 24,000 and 25,000 feet. The principal rivers are the Am-mo-chu, Wang-chu, Mo-chu, and Kuru, or Lobrak-chu.

In climate it varies enormously from the ice and snow of the higher altitudes to the damp, overpowering heat in the deep valleys, and in vegetation from the magnificent grazing grounds in the higher regions, covered with alpine flowers, surrounded by snow peaks, high pine forests, rhododendrons, magnolias, chestnuts, and oaks, to luxuriant tropical palms, ferns, and bamboos.

On my second journey I came across quantities of *Cypripedium fairianum* growing in masses on the magnesium limestone hills. This is the orchid of which one specimen reached England about 1860 in a consignment sent from Sikkim by Sir Joseph Hooker, but had since become extinct, and for which $5,000 was offered by orchid-growers. I had been on the lookout for it for several years, and now, when I did find it, I was just too late, as it had been discovered during the survey of the Am-mo-chu Valley a few months before.

There are magnificent forests of *Pinus excelsa, Abies brunoniana,* and silver fir, many of the trees exceeding in size anything I have ever seen. If these forests, with the water power at hand on all sides, were properly worked, they ought to supply all the tea districts in India with boxes, and would then soon bring in some of the much-needed revenue to Bhutan; but European capital and supervision are absolutely necessary or otherwise the forests will be destroyed.

In eastern Bhutan the hills are densely clothed with forests, but with practically no population, as it is too fever-stricken to allow of any one living there. They are, however, the haunt of almost every kind of wild animal — elephant, rhino, tiger, leopard, bison, mythun, sambur, cheetah, hog-deer, barking deer, etc. The river beds are full of runs leading to the various salt-licks which occur in the hills.

On one of my visits in this section a magnificent tusker went up the valley ahead of me, and Ugyen Kazi, who pitched his camp higher up the valley, was obliged to move his tents, owing to the numbers of wild elephants making it too unpleasant for him to stay.

While I was examining some coal deposits a large tigress, with her cub, walked down the valley, and on my return I found her pugs (footprints), with the little one's pug inside one of her own. It is an ideal place for shooting, but not easy to follow game, owing to the extreme steepness of the sandstone cliffs. The elephant in its wild state can go over or down nearly anything, and the tusker I mentioned I found had gone up a precipice 30 feet high at an angle very little short of perpendicular.

A TORRENT FROZEN SOLID IN ONE NIGHT

My second journey opened with an experience of what bad weather can be at these altitudes, for on leaving Chumbi early in December we came upon an exceptionally severe blizzard. The wind rapidly became a veritable hurricane and the temperature dropped to — 26° Fahrenheit. A roaring torrent close to our halting place, which at first kept us awake, gradually became more and more silent as the cold increased, and by morning it was frozen solid (see page 366).

I had marched on to a small bungalow at a place called Goutsa, where although everything, even the tea and milk, froze solid, I could at least have a fire and some protection from the storm; but two of my party had camped out in the hope of shooting a "shau" (*Cervus sinencis*), news of which had been brought in. The stag was reported to have a magnificent head, and as I have seen specimens with antlers measuring 64 inches, he was a trophy worth trying for. They, however, saw nothing of him and, greatly to my relief, came in the next day none the worse for their rough experience.

The following morning was brilliant and we went on to Phari, where there is a fine old weather-beaten fort built by the Tibetans, the headquarters of a jongpen, a Tibetan military official. The town is very dirty, the dirtiest I have come across, and the people living in it are also dirty; but it is difficult to keep clean at an elevation of over 15,000 feet, in such a climate, with no fuel except yak's dung, with its accompaniment of acrid smoke.

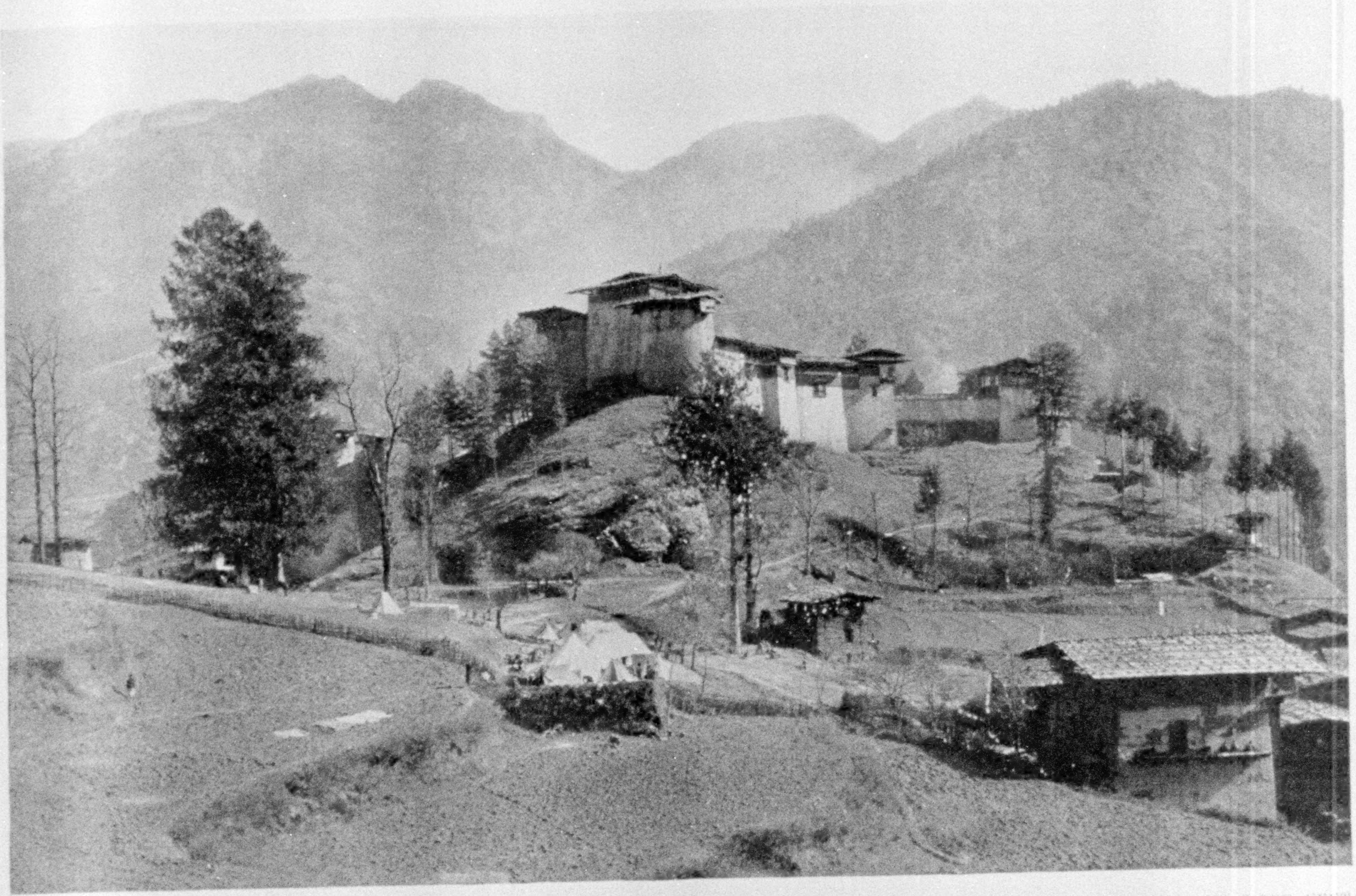
We had now reached Bhutan and, crossing the Temo-la (16,500 feet), we entered it in glorious weather. We traveled through wonderful scenery, crossing and recrossing torrents and surrounded by pine forests.

THE CASTLE OF DUG-GYE

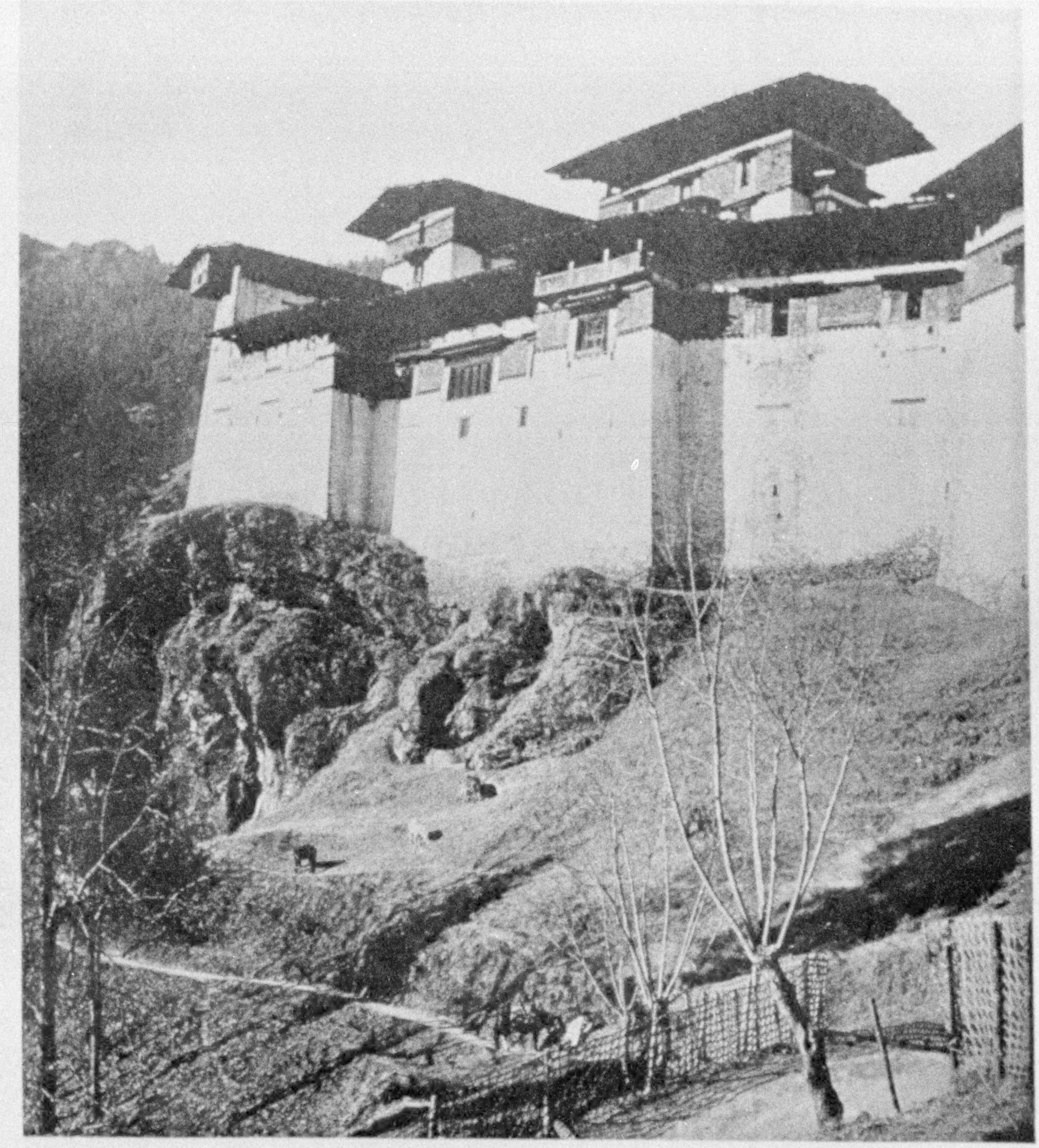
The first place of interest we came to was Dug-gye Jong (see page 368), a fort built to protect this route from a possible raid by Tibet. The fort is magnificently situated on a projecting spur in the middle of the valley, with high snow peaks on either side and lovely views looking down the valley. The jongpen (or general) had sent out gaily caparisoned mules to meet us.

I cannot describe Dug-gye better than Captain Turner, who had visited it 120 years before; the scene does not seem to have altered in the least.

"The approach to the only entrance is defended by three round towers, placed between the castle and the foot of the hill and connected together by a double wall, so that a safe communication between them is preserved even in times of the greatest peril. Around each of these towers, near the top, a broad ledge projects, the edges of which are fortified by a mud wall, with loop-holes adapted to

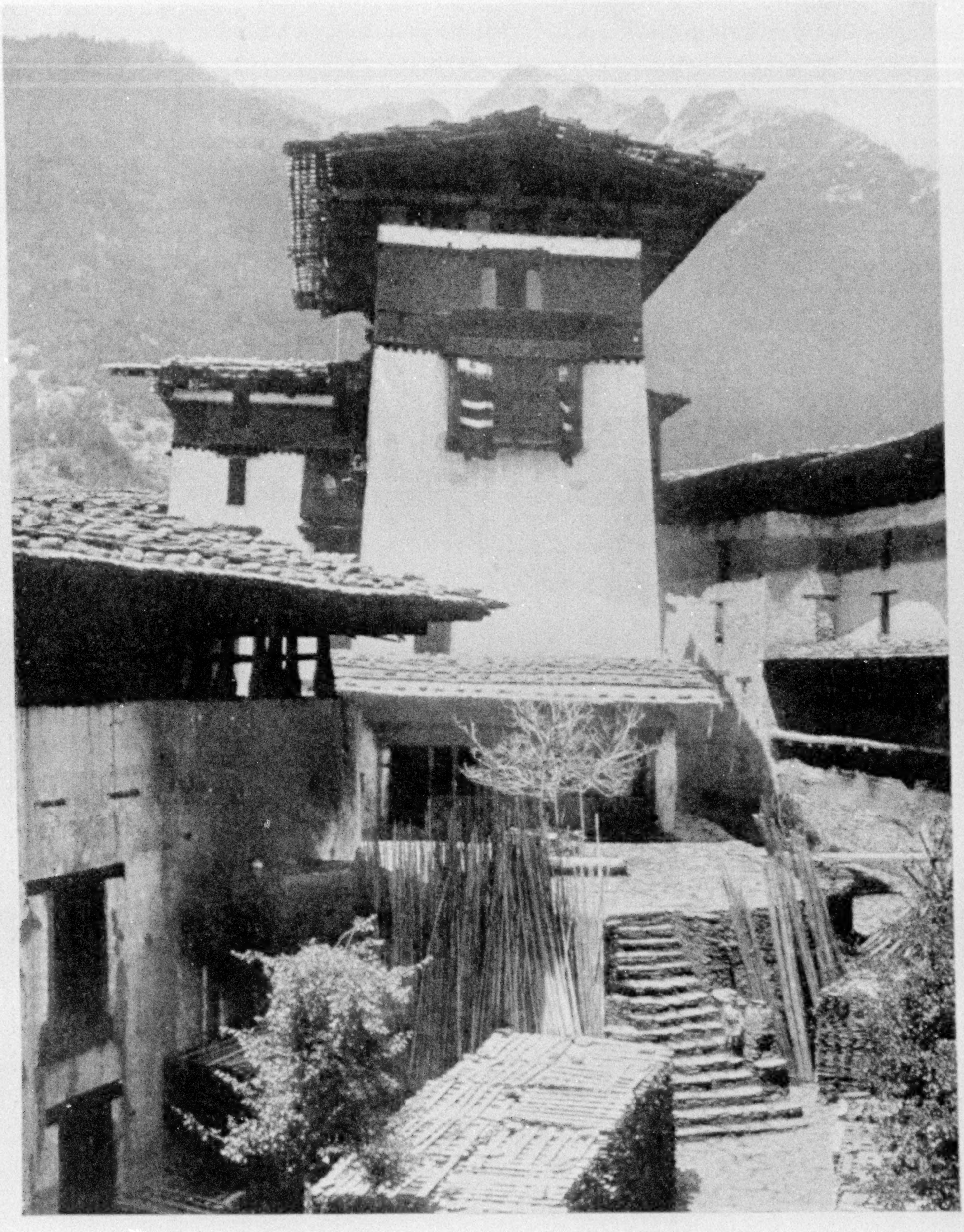


ANOTHER VIEW OF DUG-GYE JONG, SHOWING OUR CAMP IN THE FOREGROUND AND TERRACED RICE FIELDS. ALTHOUGH 9,000 FEET IN ELEVATION, VERY GOOD CROPS OF RICE RIPEN HERE



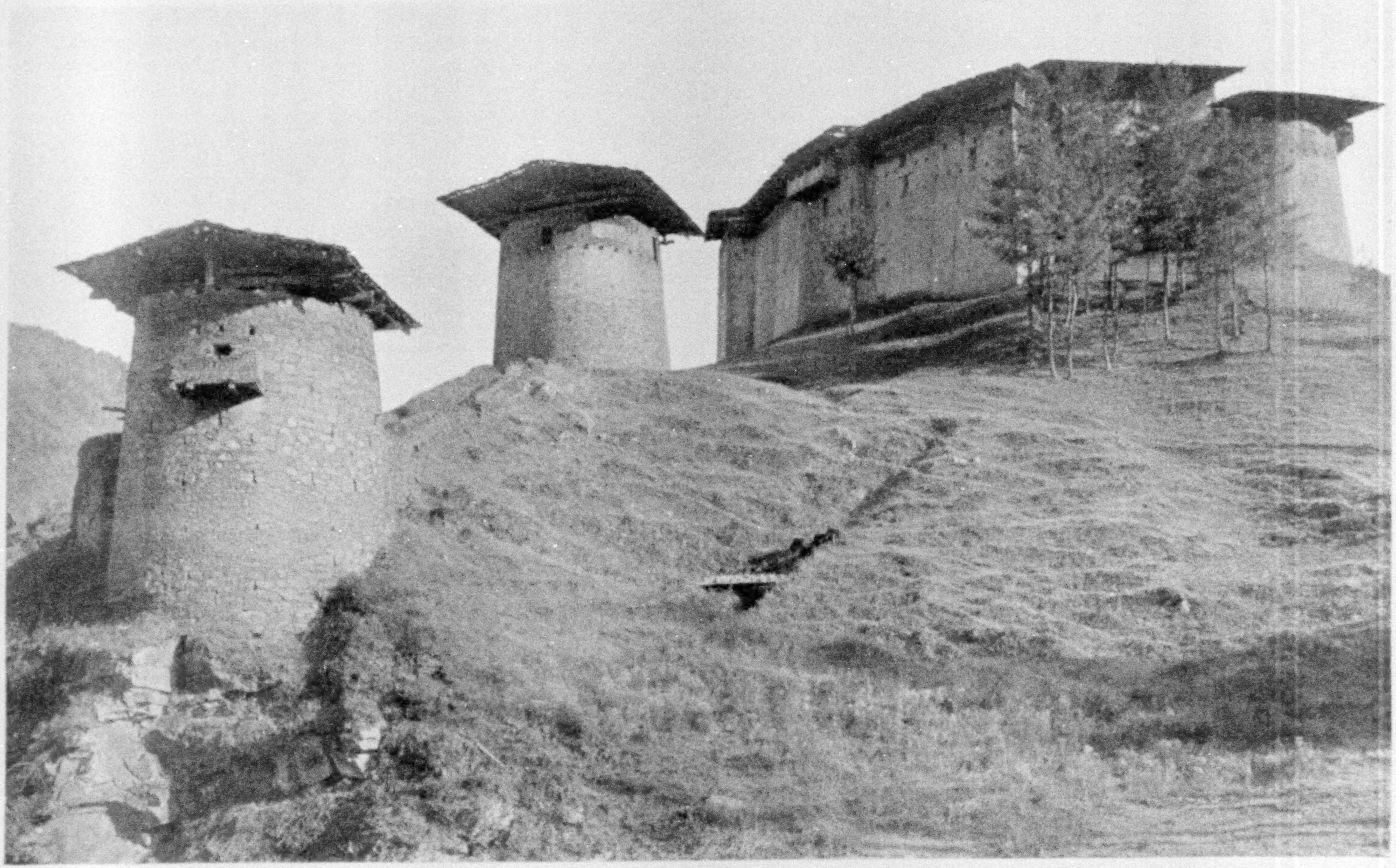
ANOTHER VIEW OF DUG-GYE

This view gives a very good idea of the sloping architecture of the walls and the projecting roofs, made of split pine. The railing in the foreground is split bamboo



A VIEW OF THE INTERIOR OF DUG-GYE JONG, SHOWING SHINGLE ROOFS KEPT IN PLACE BY LARGE STONES

In the yard are stacks of long split shingles ready for renewing the roof. The roofs are reshingled every fifth year and are weighed down with tons of stones to withstand the fierce winds in these high altitudes (see also page 431).



DUG-GYE: THIS VIEW SHOWS THE ROUND TOWERS BUILT TO PROTECT THE COVERED WAY TO THE SPRING UNDERNEATH THE LOWEST TOWER. IN CASE OF SIEGE THE INMATES CAN REACH THE WATER SUPPLY UNDER COVER the use of the bow and arrow or of muskets. On the north of the castle are two round towers that command the road from Tibet. On the east side the rock is rough and steep, and close under the walls on the west is a large basin of water, the only reservoir I had seen in Bhutan.

"The castle of Dug-gye-jong is a very substantial stone building, with high walls; but so irregular is its figure that it is evident no other design was followed in its construction than to cover all the level space on the top of the hill on which it stands. Having ascended to the gateway at the foot of the walls, we had still to mount about a dozen steps through a narrow passage, after which we landed upon a semicircular platform edged with a strong wall pierced with loop-holes. Turning to the right, we passed through a second gateway and went along a wide lane with stables for horses on each side. The third gateway conducted us to the interior of the fortress, being a large square, the angles of which had three suites of rooms. In the center of the square was a temple dedicated to Mahamoonie and his concomitant idols."

I found the whole of the premises very clean. The jongpen, who was appointed by, and is a staunch adherent of, the Tongsa Penlop, Sir Ugyen, and had been to Lhasa in the latter's suite, received us cordially, and entertained us with a Bhutanese lunch of scrambled eggs and sweet rice, colored with saffron, accompanied by *murwah* (beer) and *chang* (spirit), also colored with saffron, fresh milk, and a desert of walnuts and dried fruits. His wife, who prepared the meal, was one of the cleanest and best-looking women I have seen in Bhutan; and her little boy, wearing an exact copy, in miniature, of his father's dress, was a nice little chap.

The Dug-gye armory is said to be the best in the country, and is contained in a fine room, with a large bow window facing south and looking down the valley—in the Tongsa Penlop's opinion the best balcony in Bhutan (see pages 372, 431).

In the outer courtyard men were making gunpowder. A silversmith and a wood-turner were also at work, and in the inner courtyard were piles of shingles (pieces of flat wood) ready for reroofing the castle, which has to be entirely redone every five years. Altogether there was an air of bustling activity which was pleasant to meet with.

A MONASTERY BUILT OVER A PRECIPICE

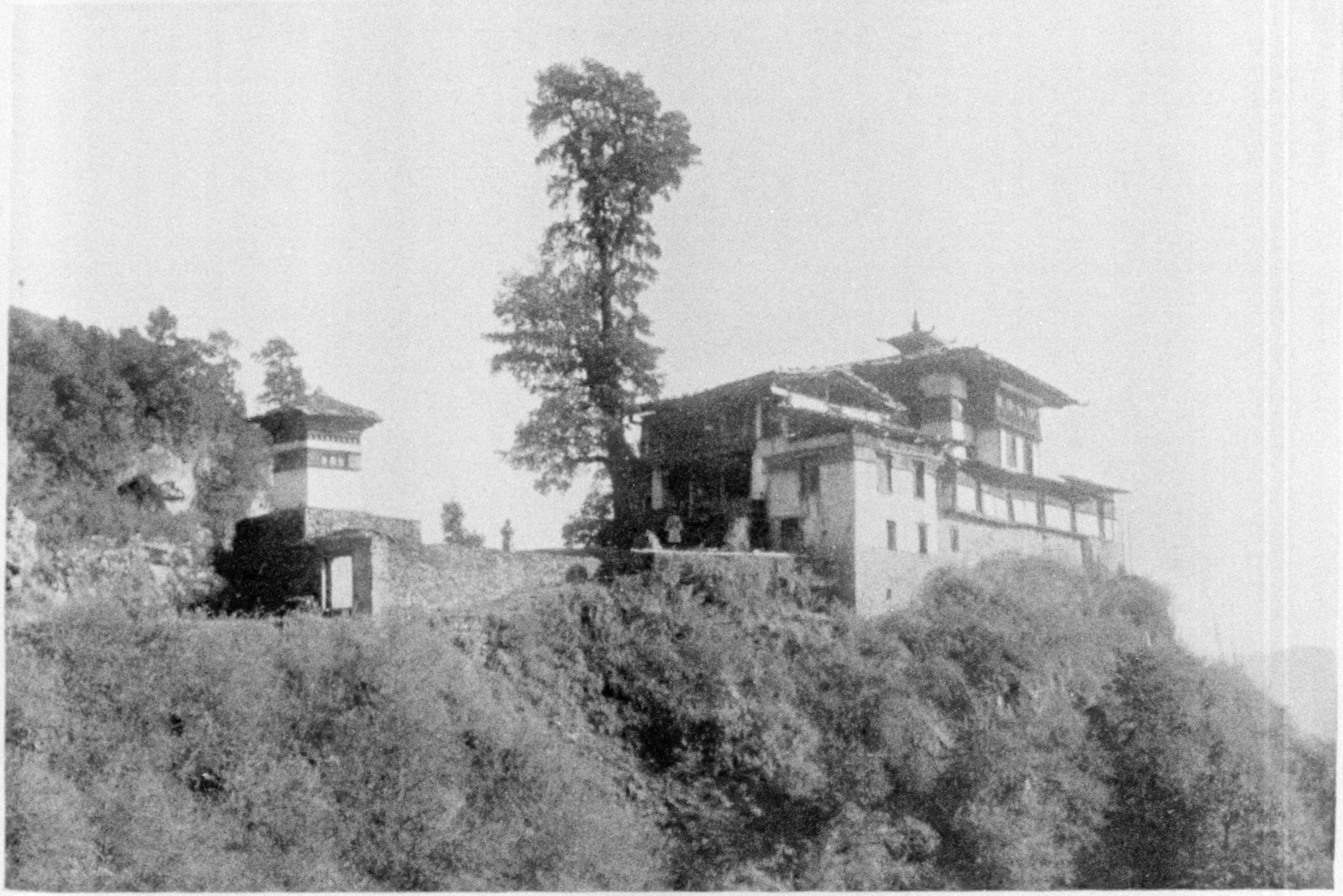
We remained as guests of the jongpen for two days in order to visit the famous Monastery of Paro Ta-tshang, which is situated on the opposite side of the valley, about 3,000 feet up. The road was reported to be very bad, and it certainly was, and I was glad I had not brought my own animals, but had borrowed mules from the jongpen for all our party. The road to the top of the spur was very steep, with frozen, slippery patches, where it was shady and very hot in the sun. It ran in one place in a narrow path across a precipice, with a tremendous drop below, and in another became a series of steep stone steps (see page 430).

On reaching the top of the ridge we first came in sight of the monastery buildings, grouped on an almost perpendicular hillside in the most picturesque manner. The main temple is erected on what is practically a crack in a perpendicular rock over 2,000 feet in height, and along the crack there are a few more subsidiary buildings.

Each building is two stories high and is painted, like all monasteries, a dull light gray on the lower story, with a broad band of madder red above, and shingle roofs, on the top of which are gilded canopies. It was unquestionably the most picturesque group of buildings I had seen. Every natural feature in the landscape had been taken advantage of, and beautiful old trees clinging to the rocks were in just the right position and, combined with the sheer precipices, made a magnificent picture.

We appeared to be quite close, but were really separated from the buildings by an almost inaccessible gorge. The only approach was by a narrow path or series of steps, where a foot misplaced would precipitate you to the bottom, 1,000 feet below, then across a plank bridge, and up another series of little steps cut in the rock. The native hospital assistant had

XUM



SANG-TOG-PERI, THE HIGHEST BUILDING IN THE GROUP OF THE PARO-TA-SHANG MONASTERY

The entrance, the surroundings, the way the trees are grown, is much more like a Japanese temple than anything I have seen elsewhere in Bhutan (see text, pages 375-377, and picture, page 430) accompanied our party so far, but this was too much for him. He said he had been in many bad places, but never such a bad one as this, and he turned back to where the mules were waiting. Natives, as a rule, have good heads and do not mind bad roads, so that speaks for itself.

Across the gorge a rope of little colored prayer-flags was stretched, which fluttered out prayers for the benefit of those who had put them up, and this added to the picturesqueness of the scene.

On reaching the top of our ladder-like path a monk presented us each with a draught of beautifully ice-cold water in a gourd from a holy spring, and I can imagine it being much appreciated on a hot day.

The most holy shrine, the sanctuary round which all the other buildings have sprung up, was situated in a cave. The cave is not large, and in it was a gilded chorten filled with small images of Buddha in copper gilt, each seated on a lotus and many of very good design. The other buildings were for the most part ordinary temples, with frescoed walls and altars, with butter-lamps and incense burning, and in the principal one there was a very fine brass Buddha of more than life size, surrounded by his satellites. There were also some unusually good specimens of *dorjes* (thunderbolts) and *purpas* (daggers), both of which are used in the temple services.

They were supposed to be of holy origin and to be found among the solid rocks near the shrine; but I could see none, although the Bya-gha Jongpen's son, a nephew of the Tongsa, had taken one away a few weeks previously. My servants were very anxious to secure one of these treasures, and climbed to an almost inaccessible point in the rocks in search of them, but without success.

In the center of the gorge, perched upon a tiny ledge, there was a hermit's dwelling, which could only be reached by climbing a perpendicular notched pole about 40 feet high. It looked diminutive against the enormous precipice (p. 378) and dreary and uninviting, with long icicles hanging from the roof, and we did not attempt to visit it. We, however, climbed to the top of the precipice to visit the monastery of Sang-tog-peri, which was most picturesquely situated on a projecting spur, with a fine old oak overhanging the entrance. It reminded me of some of the Japanese temples in Kioto, in the way the natural features of the ground had been utilized to beautify the entrance.

There was a lovely view from this point. Around us on all sides were spurs, with other monasteries and nunneries, but they were all more or less difficult of access and our time would not admit of further delay; so we were obliged to return, leaving them unvisited. It was a place that would take days to explore and would well repay the trouble, especially to an artist in search of the beautiful and unusual.

FEEDING MULES WITH EGGS

From Dug-gye the route to Paro ran down the valley, with monasteries perched on every prominent hill. On reaching Paro we found our camp, as usual, ready pitched for us (see page 384).

In the afternoon, while wandering round the camp, which was very well laid out, I watched the curious Bhutanese custom of feeding mules with eggs, which I had never come across elsewhere. All our mules, as well as those belonging to Ugyen Kazi and to the penlops, each had a ration of two or three raw eggs. The eggs were broken into a horn, the mule's head held up, and the contents of the horn poured down the animal's throat; and, strange to say, they seemed to like the unnatural food. The Bhutanese always give this to their animals when they have any extra hard work to do, and say it keeps them in excellent condition; and certainly all their mules were in first-rate condition.

Paro is a very large and striking building, protected on the one side by the River Pa-chu, spanned by a substantial bridge on the cantilever principle, covered with a roof to protect the timber (see pages 385-387). The only entrance is from the hillside above the third story, the lower stories being used entirely as storehouses for grain, etc.

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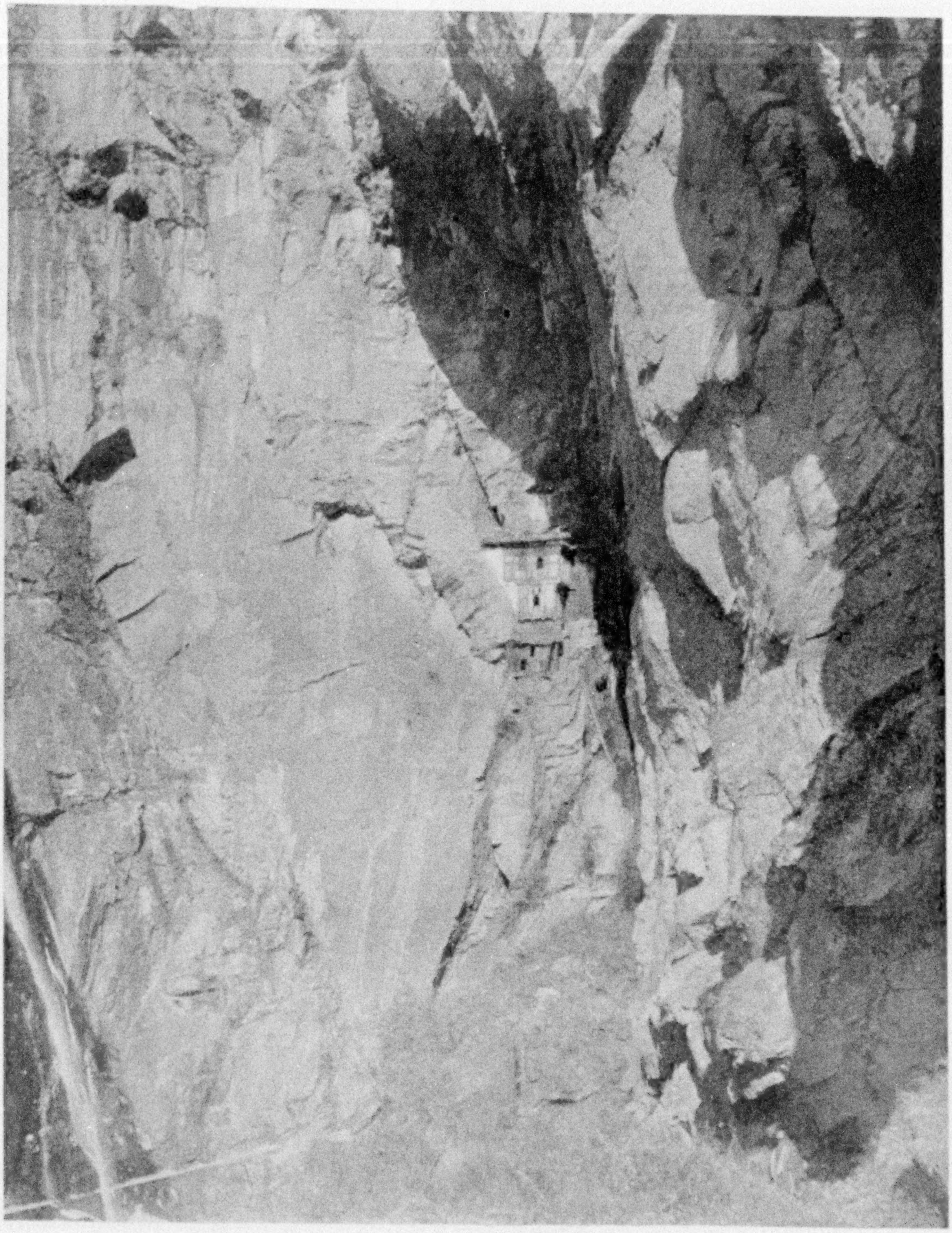
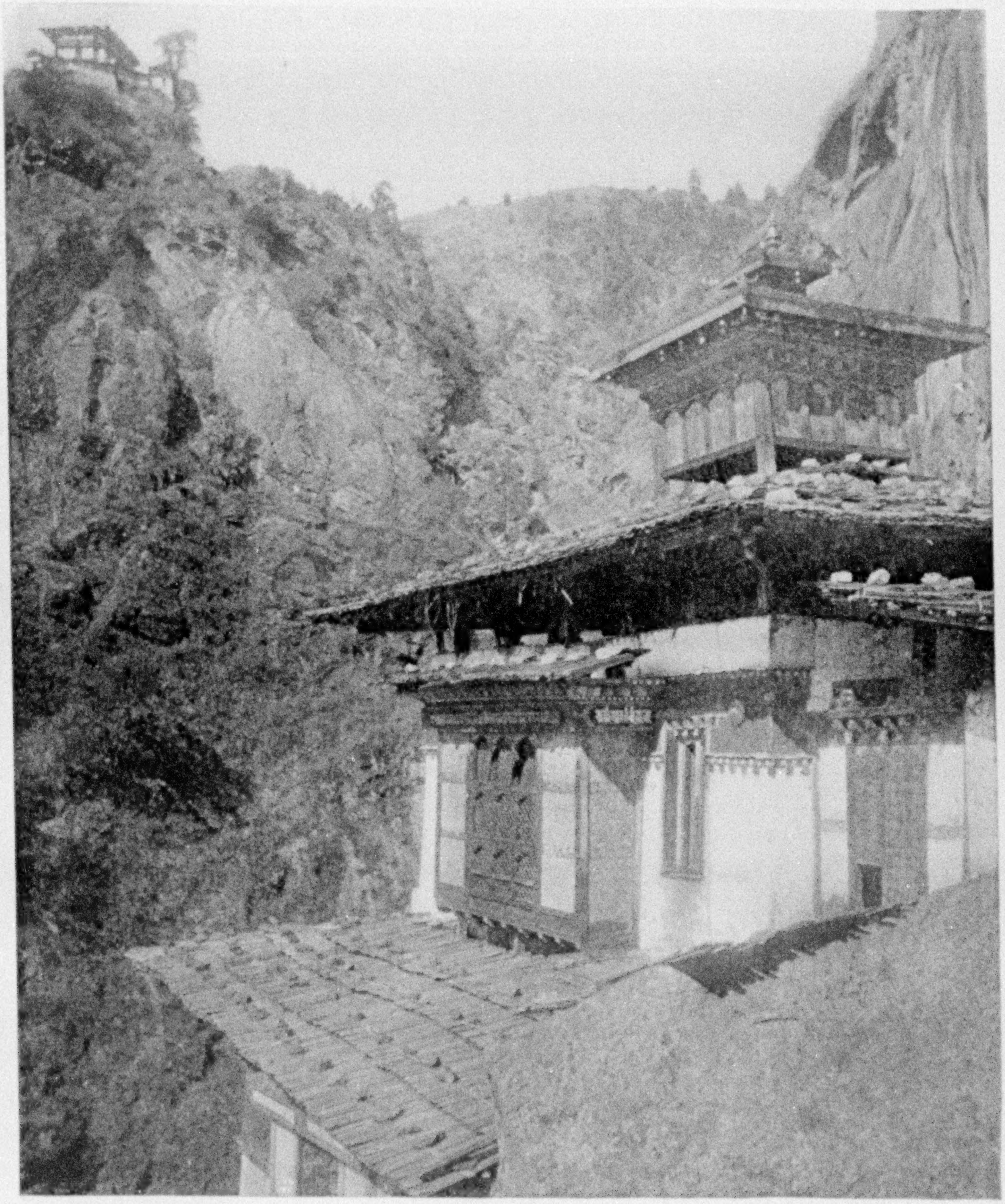


A HERMIT'S HOUSE

On the most precipitous part of the road through the gorge leading to Paro-ta-tshang, on an almost perpendicular face of the cliff, and actually under the overhanging cliff on the right. The streak of white in the left-hand bottom corner is a string of printed prayers stretched across the gorge (see pages 375-379).

XUM



GOLDEN TEMPLE ROOFS OF THE PRINCIPAL SHRINE AT PARO-TA-TSHANG

The upper portion is carved in high relief and the top is of copper gilt. The balcony window is painted and ornamented with sacred scrolls

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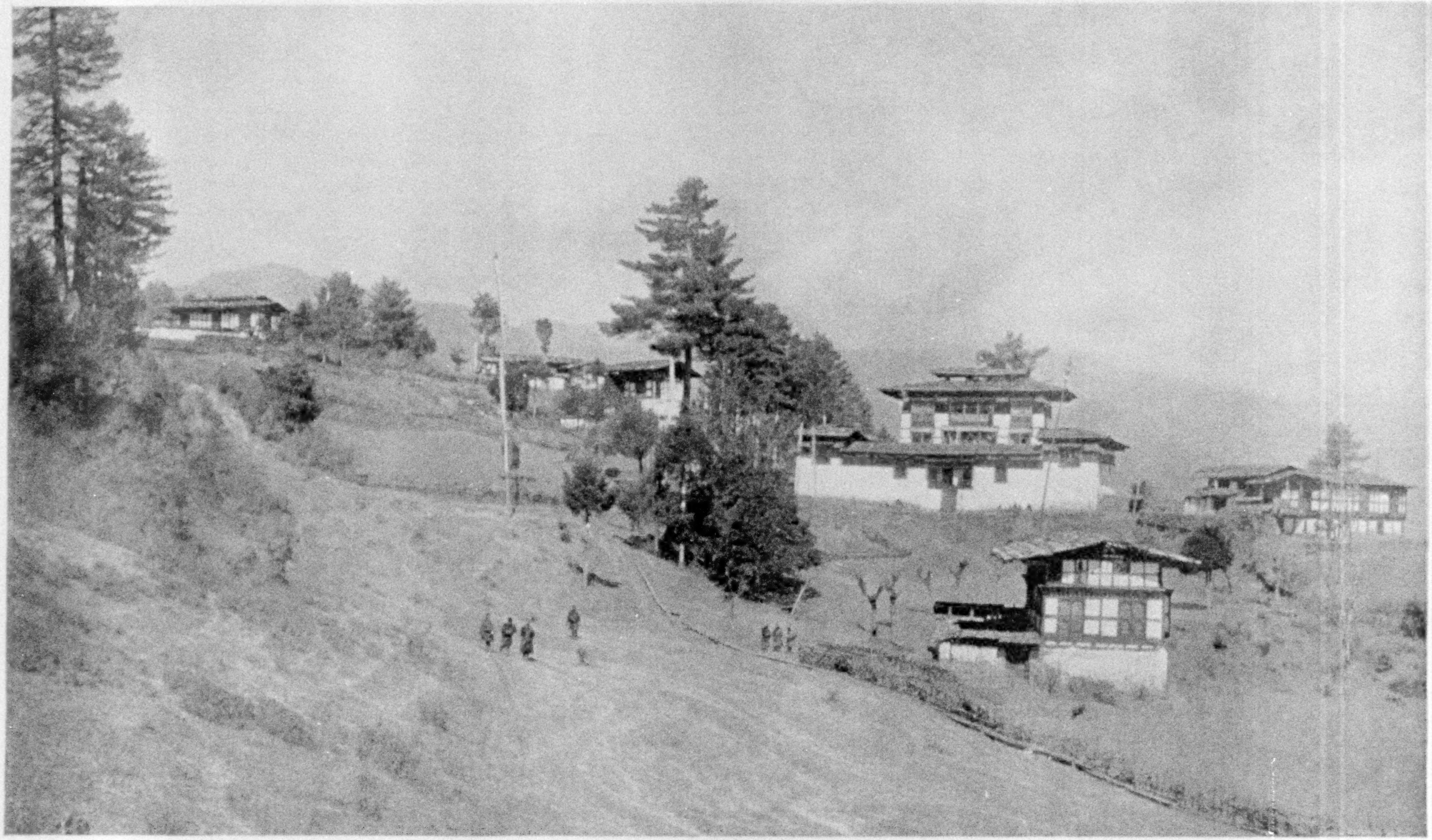


GORINA MONASTERY, SURROUNDED BY LAMAS' HOUSES, SITUATED ON A SPUR RUNNING INTO THE PARO VALLEY. PRAYER FLAGS ARE DOTTED ABOUT ON POLES, AND TO THE RIGHT OF THE MAIN BUILDING IS A "GYANTSIN," OR CIRCULAR SACRED HANGING

The chapel was gaily decorated with fresco paintings in good taste, while the hangings round the altar were overlaid with wrought brass open-work superior to anything that I had seen in Lhasa; but in sharp contrast the side altars were adorned with four gaudy green porcelain parrots. On the ridge below we were greeted with salvos of artillery, fired from iron tubes bound with leather, and I wondered whether these could be the leather cannon of which we heard so much in the Chinese-Gurkha war.

IN A BHUTANESE FORTRESS

Crossing the foss, which separates the outer courts from the fort by a heavy drawbridge, we passed through a huge gateway and found ourselves in the eastern courtyard, in the center of which is the smaller of two citadels, equal in height and occupied by petty officials (see page 388). A series of rooms and verandas overlooking the river is built against the inside of the east and north outer walls, and a covered veranda, one story in height, occupies nearly the whole western front.

The penlop's rooms are situated in the southeast corner, on the floor above, and we entered through a long, low room filled with retainers seated in four rows, two on each side, facing each other—a scene which made one think of the old baronial halls in bygone English days. To add to this impression, the reception-room was large and handsomely decorated, and the walls were hung with arms of all descriptions—shields, spears, matchlocks, guns, bows and arrows of every imaginable kind—all well kept and ready for use.

The penlop, or governor, received us in a large bay-window looking down the valley, but the visit was dull and uninteresting, as he seemed to know little of the history of his country, and what little information we did extract was vague and inaccurate. According to the usual custom, I made him some presents, and shortly after took my leave, receiving permission to inspect the fort and to pay a visit to his private house across the valley (see page 391).

The fort is said to have been built toward the end of the sixteenth century, and does not seem to have suffered from the earthquake of 1897, which shattered Tashi-cho-jong and Poonakha. On the first floor is the temple, the *gompa,* or public chapel, of which is a very finely proportioned hall, well lighted, and with galleries running round the main building.

It is a much larger room than the one in the Potala at Lhasa, where the Tibetan Treaty was signed, and all its decorations are good, a hanging lattice-work of pierced brass in front of the altar especially being very fine and quite unusual. At the other end of the west veranda is the private chapel of the Ta-tshangs, or state lamas, and there we were received by their head, the Abbot Lama Kun-yang Namgyel, who went to Lhasa with the Tibet Mission and exercised a good influence among the monks there. He gladly showed us all there was to be seen.

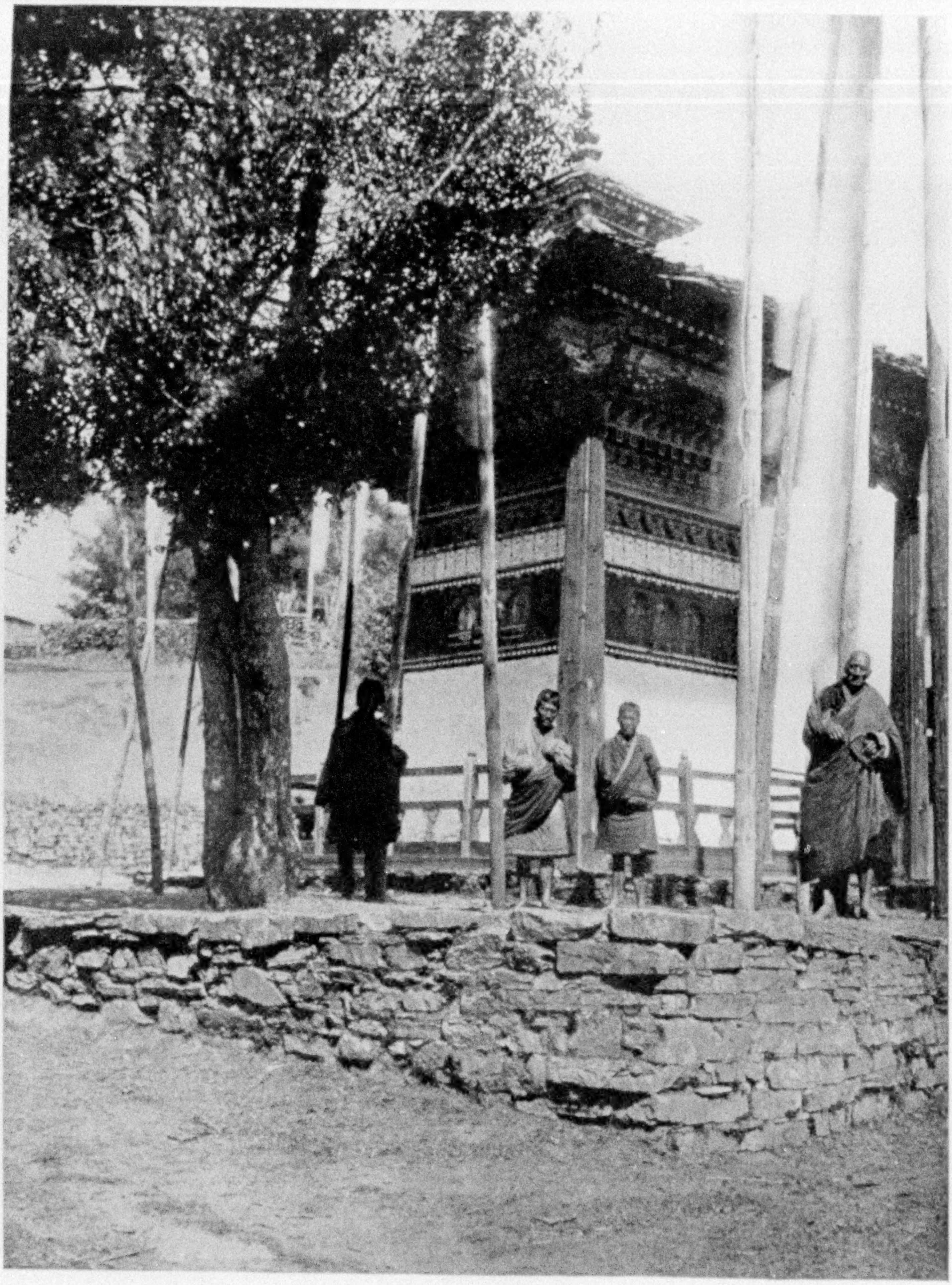
The larger of the two citadels is in the center of the western courtyard, at the northwest angle of the building, and I noticed old catapults for throwing great stones, carefully stored in the rafters of the veranda. In the northeast corner are the rooms for distinguished guests, and there is a guard-house in the parade ground beyond the drawbridge. The fort is protected on the side away from the river by several small outlying blockhouses (see page 385).

The penlop's (governor's) private house, where he passes some part of his time, lies on the other side of the river and is the residence of his wives (see page 390). No female is allowed to enter the fort, and at night the gates are closed and opened for no one. In this house the jongpen lives amicably with two wives, the younger one being the daughter of the elder woman by a former husband. The elder woman was intelligent and had a great deal to say, but the younger one was shy and very silent.

THE HEADQUARTERS OF THE GOVERNMENT

Three marches brought us to Tashi-cho-jong, the summer quarters of the Bhutan government. En route we camped under an immense "weeping cypress," 51 feet in girth at 4 feet from the ground, and the latter part of the march before reaching the castle was most interesting, as we passed through country replete with historic interest connected with the different battles which had taken place between rival clans for its possession, fortunately now things of the past.

Tashi-cho-jong is an imposing edifice, in the form of a parallelogram, the sides parallel to the river being twice the length of the other two. It differs from other forts in one particular. Instead of only one gate, it possesses two large gateways on the south, and another to the east, on



A FINE EXAMPLE OF CHORTEN, OR SHRINE, AT GORINA MONASTERY, SURROUNDED BY PRAYER FLAGS

In front a venerable lama is telling his beads. The carving and decoration on this was good and the images well modeled the river face. It is protected on the west and north by a wide foss filled with water (see pages 392-397).

Unlike Paro and Poonakha, the bridge across the Thimbu Chu was not connected with the castle, and below the bridge was a wooden contrivance cleverly constructed to catch the timber floated down the river for the use of the castle.

The interior of the castle is divided into two unequal portions by a high wall, the larger section to the south containing the usual square tower, measuring about 85 feet each way, and in this are situated the chapel and private apartments of the Dharma Raja, the spiritual head of the nation.

The original tower was destroyed by the earthquake of 1897 and the present structure was finished about 1902; but it has been badly built and the main walls are already cracked, while the interior showed signs of unequal subsidence. The decorations are, of course, quite modern.

In the southeast angle of the courtyard beyond are the public or living quarters of the Dharma Raja, and on the west front those of the Thimbu Jongpen, where we were hospitably entertained. The northern and smaller portion of the castle is occupied entirely by the Ta-tshang lamas and is not usually open to laymen. The dividing wall is surmounted by a row of white *chortens*, or shrines, protected from the weather by a double roof (see pages 395 and 441).

A THOUSAND BUDDHAS

In the center of the inner courtyard is an extremely fine hall of audience or worship, 120 feet square and at least 50 feet high. It is well lighted and finely decorated with fresco paintings, and when the silken ceiling cloths and embroidered curtains and banners are hung it must look extremely well; but the lamas were absent at Poonakha, their summer quarters, and all the decorations were either carefully put away or taken with them.

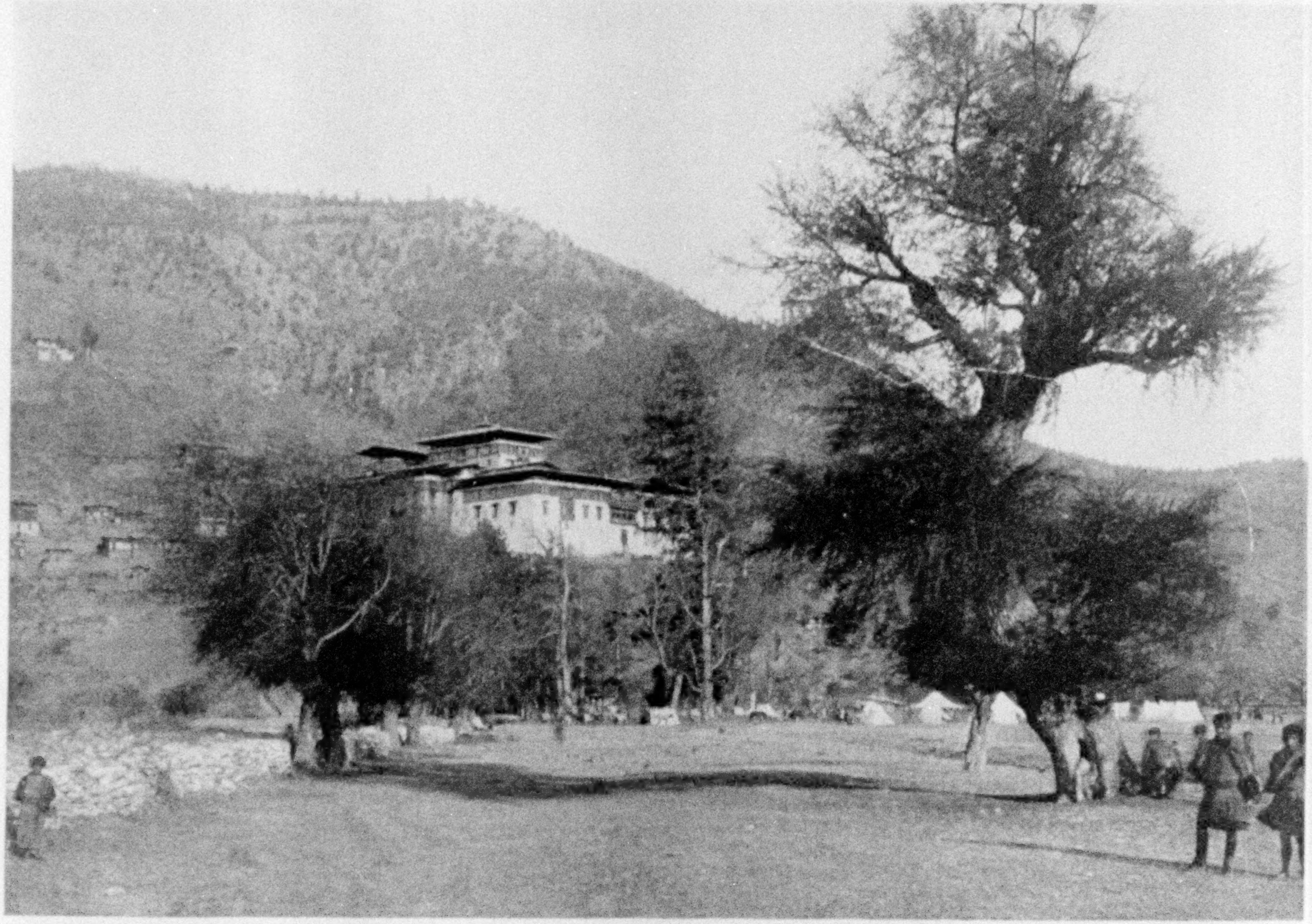
A succession of chapels was built on the west side. One of these was a splendid example of good Bhutanese art; its door-handles, of pierced iron-work inlaid with gold, were exceptionally beautiful. It was said to contain 1,000 images of Buddha, and the number is very likely correct, as I counted over 600, while the pair of elephant's tusks supporting the altar, which I have remarked as an essential ornament to the chief altar in every Bhutanese chapel I have visited, were larger than usual (see page 441).

THE BUDDHIST RITUAL

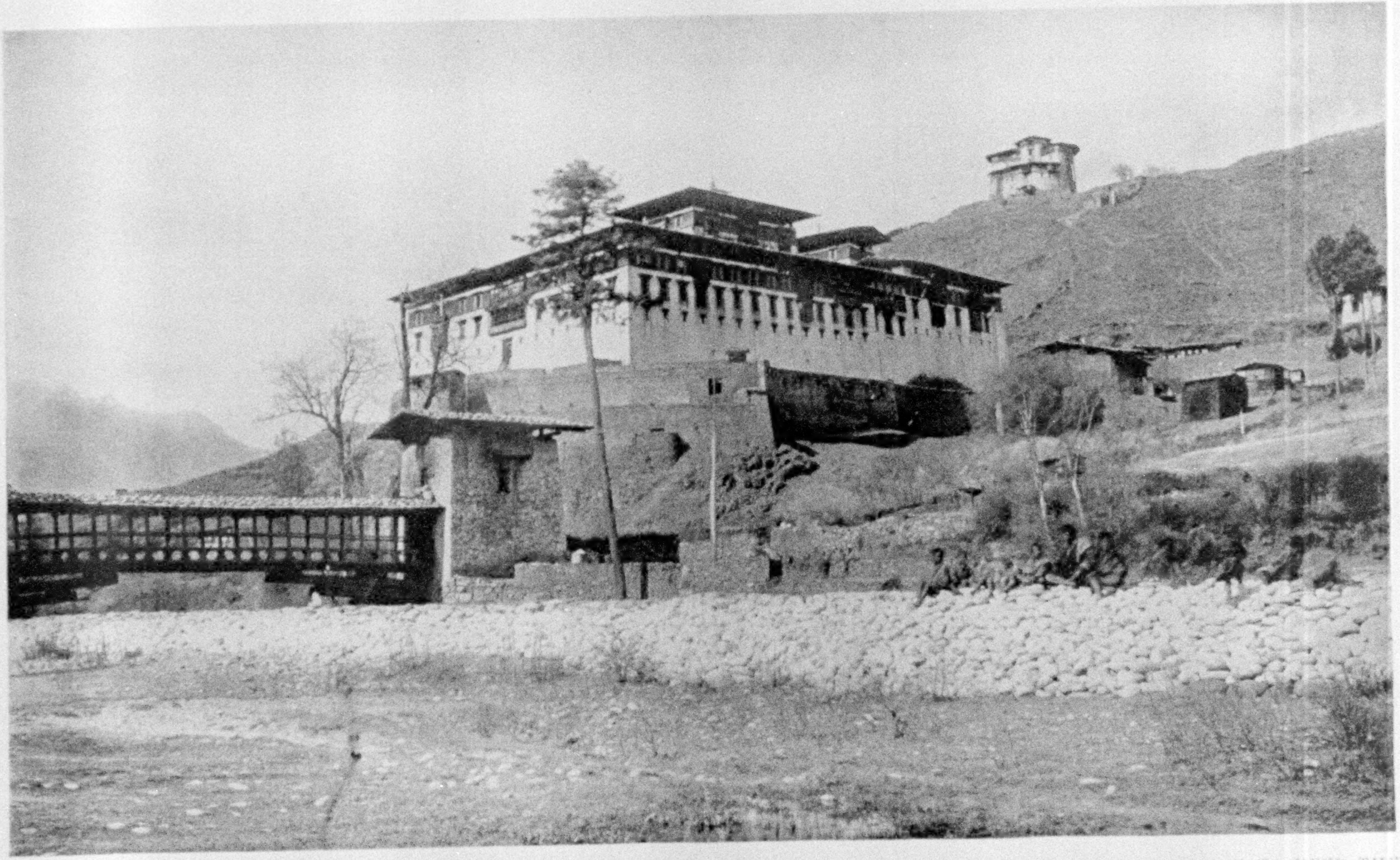
To my readers who wish to study the subject of Buddhist religion in this part of the world, I cannot give better advice than to read Waddell's "Lamaism," as I have no intention of entering deeply into it, and will content myself by saying that in both Sikkim and Bhutan the religion is an offshoot of Buddhism, and was introduced into these countries from Tibet by lamas from different monasteries who traveled south and converted the people. Most of the tenets of Buddha have been set aside, and those retained are lost in a mass of ritual; so nothing remains of the original religion but the name.

The form of worship has a curious resemblance in many particulars to that of the Catholic church. On any of their high holy days the intoning of the chief lama conducting the service, the responses chanted by the choir, sometimes voices alone, sometimes to the accompaniment of instruments, where the deep note of the large trumpet strangely resembles the roll of an organ, the ringing of bells, burning of incense, the prostrations before the altar, the telling of beads and burning of candles, the processions of priests in gorgeous vestments, and even the magnificent altars surmounted by images and decorated with gold and silver vessels, with lamps burning before them, even the side chapels with the smaller shrines, where lights burn day and night, add to the feeling that one is present at some high festival in a Catholic place of worship.

I have been present at the services on feast days in the temples in Sikkim, Bhutan, and in Lhasa, and no great stretch of imagination was required to imagine myself in a Catholic cathedral in France or Spain, especially the latter. There is also some resemblance in the dress and vestments of the priests and lamas and even in some of their customs. Many of



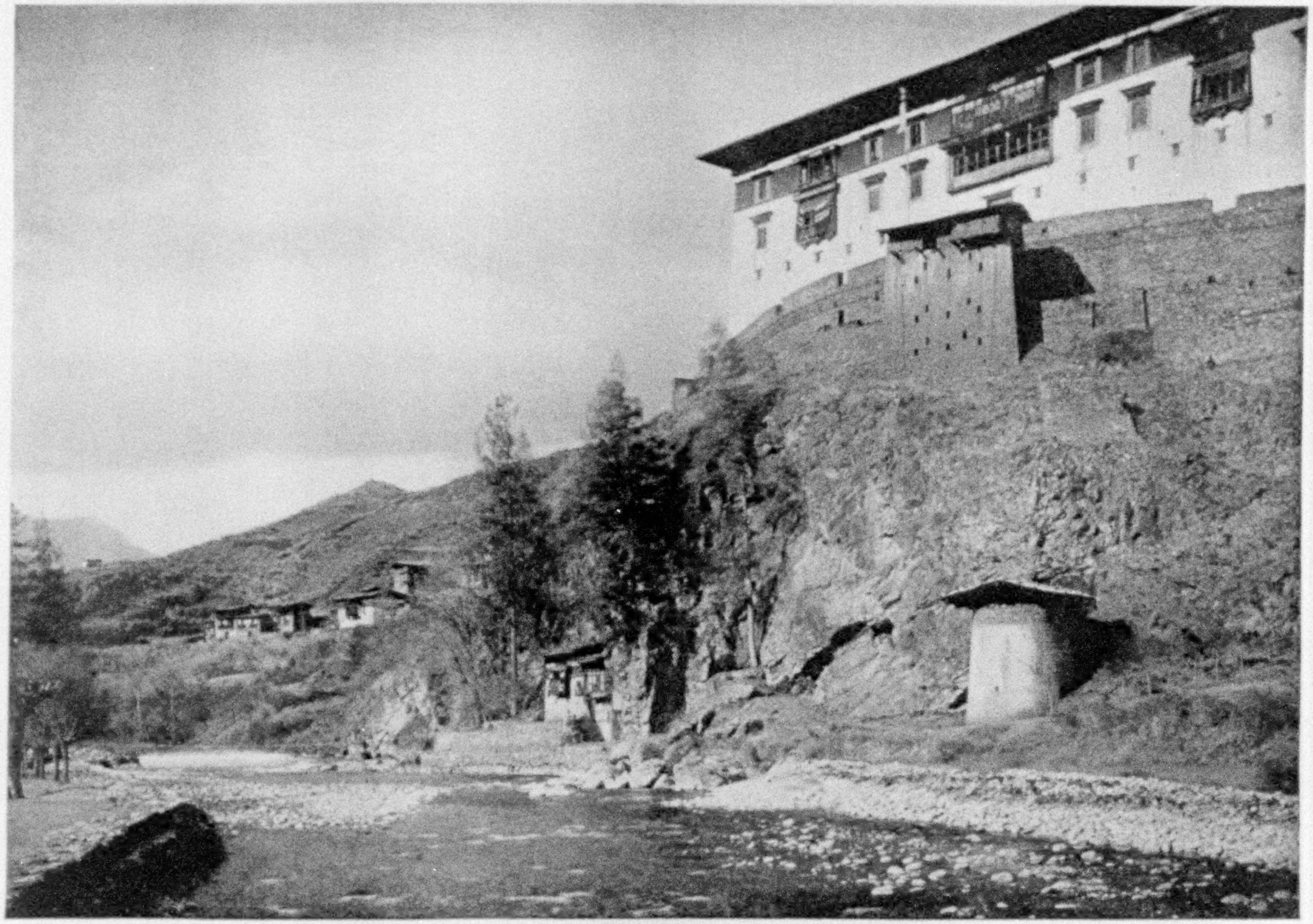
A GOOD VIEW OF PARO JONG, WITH AN ENORMOUS WILLOW IN THE FOREGROUND. THE LARGE TREE IN THE CENTER IS A WEEPING CYPRESS. OUR CAMP MAY BE SEEN IN THE DISTANCE (SEE PAGES 377 AND 381)



VIEW OF PARO JONG, SHOWING ONE OF THE OUTLYING PROTECTING FORTS ON THE HILL AND A STONE EMBANKMENT TO KEEP THE RIVER IN ITS PROPER BED AND PREVENT ITS OVERFLOW (SEE PAGE 381)

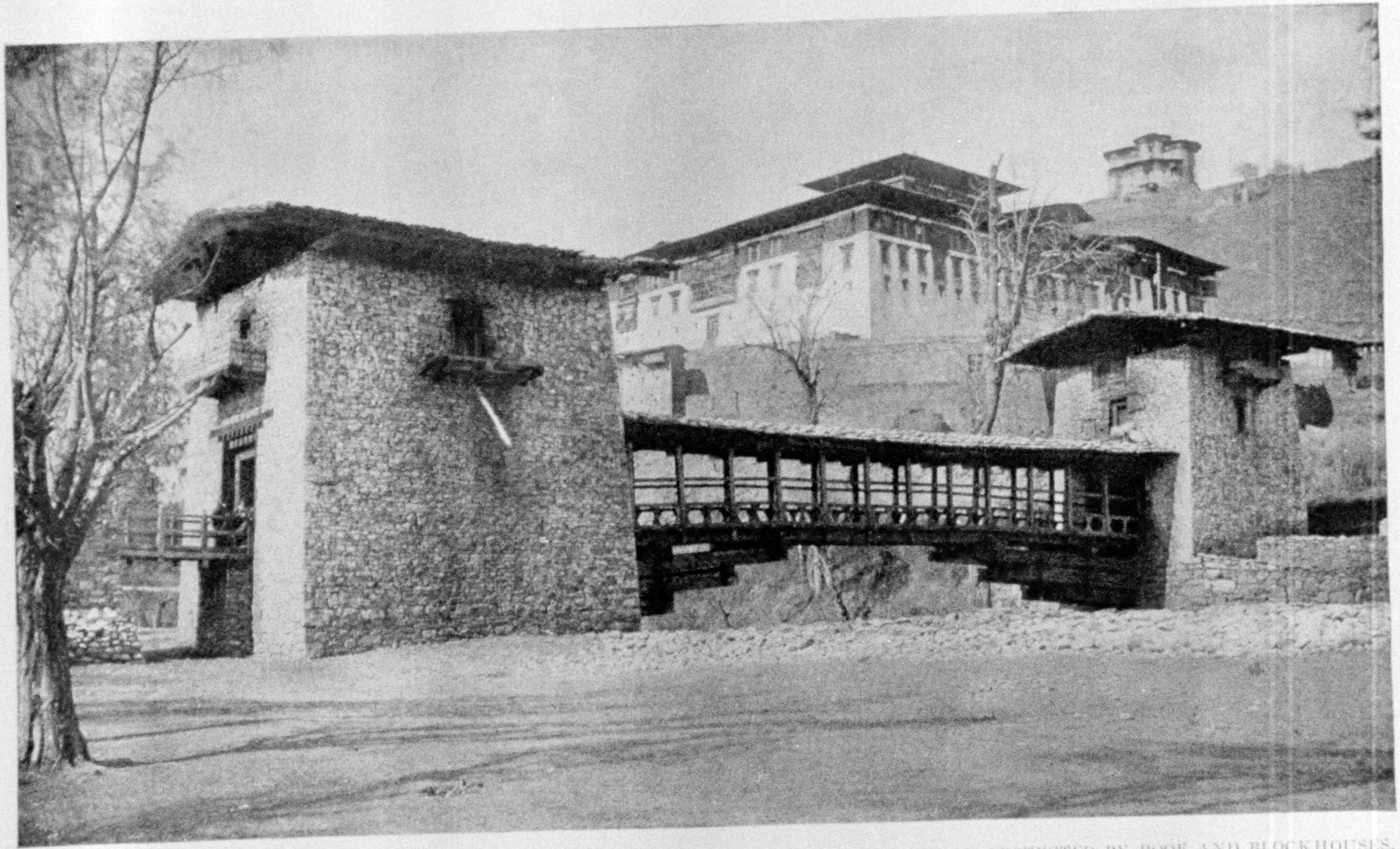
The forts are painted a dull light gray on the lower stories, with a broad band of madder red above, clearly shown in this photograph

XUM



ANOTHER VIEW OF PARO JONG, GIVING SOME IDEA OF ITS HEIGHT ABOVE THE RIVER, AND ALSO SHOWING A SMALL TEMPLE BUILT IN A CLEFT OF THE ROCK ON THE RIVER BANK

Note the round tower, which protects the covered way to the water supply



BRIDGE ACROSS THE PA-CHHU, THE APPROACH TO PARO JONG, A VERY MASSIVE STRUCTURE, PROTECTED BY ROOF AND BLOCKHOUSES. THIS IS THE ONLY MEANS OF CROSSING THE RIVER AND IS DOMINATED BY THE FORT

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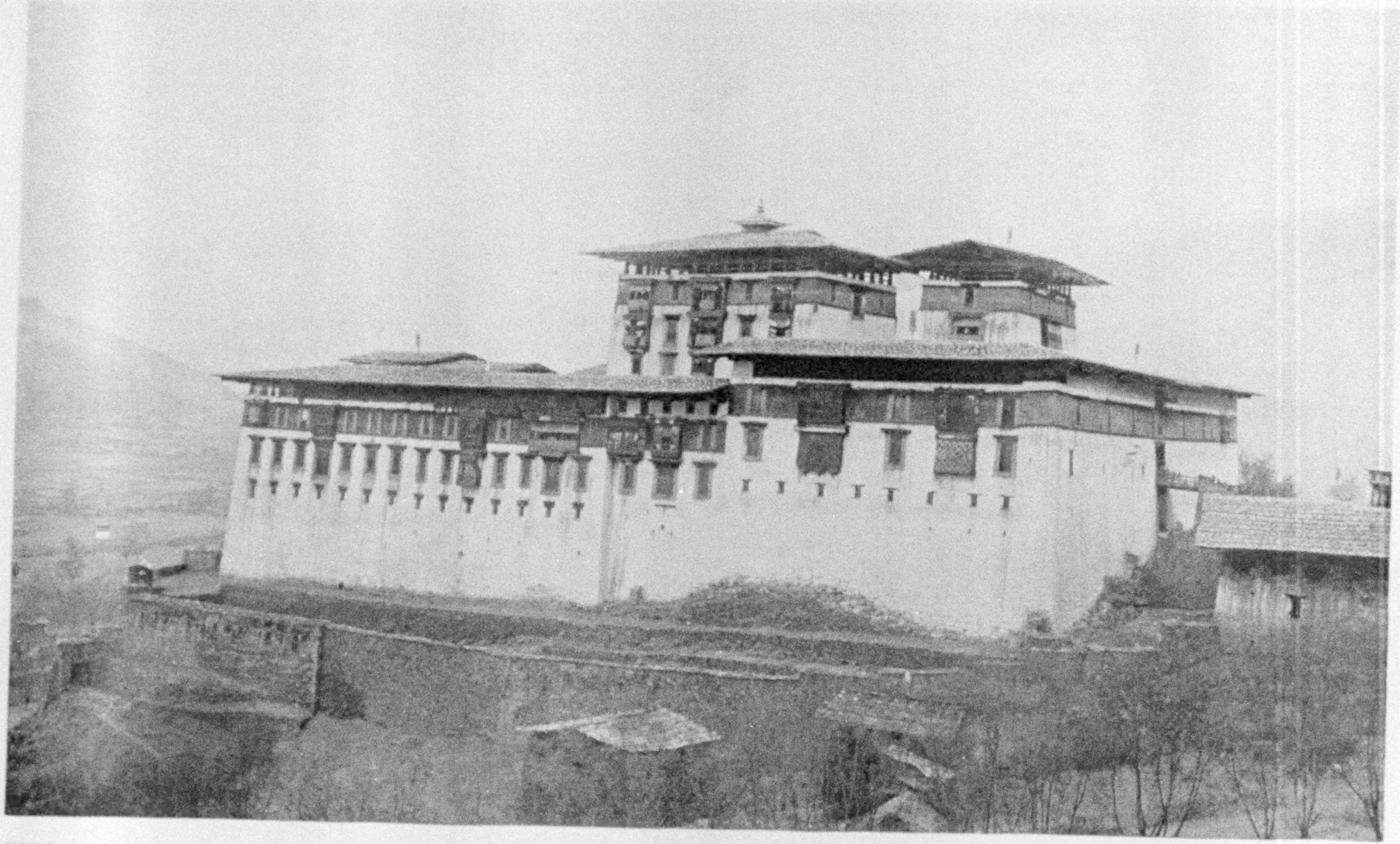
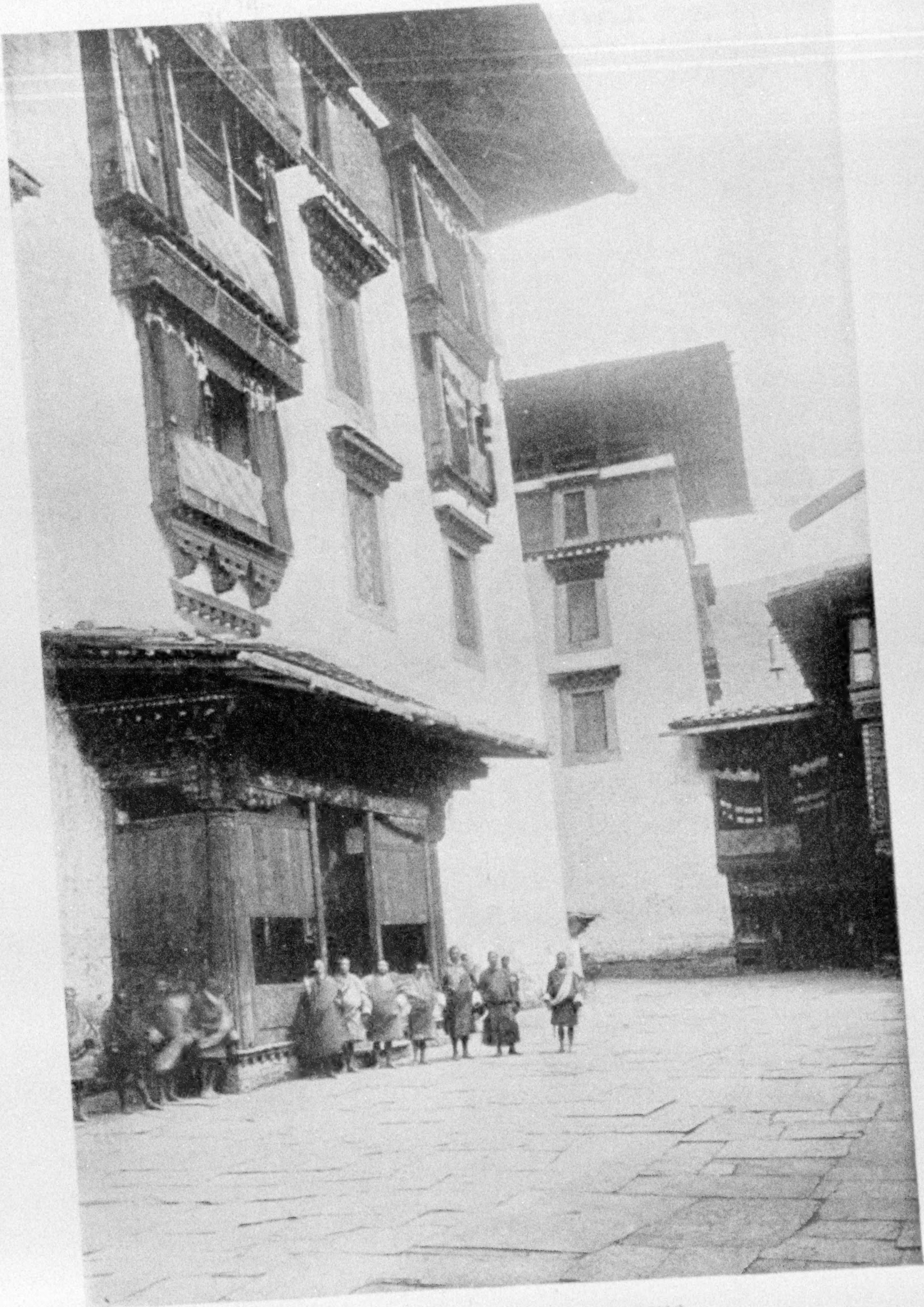
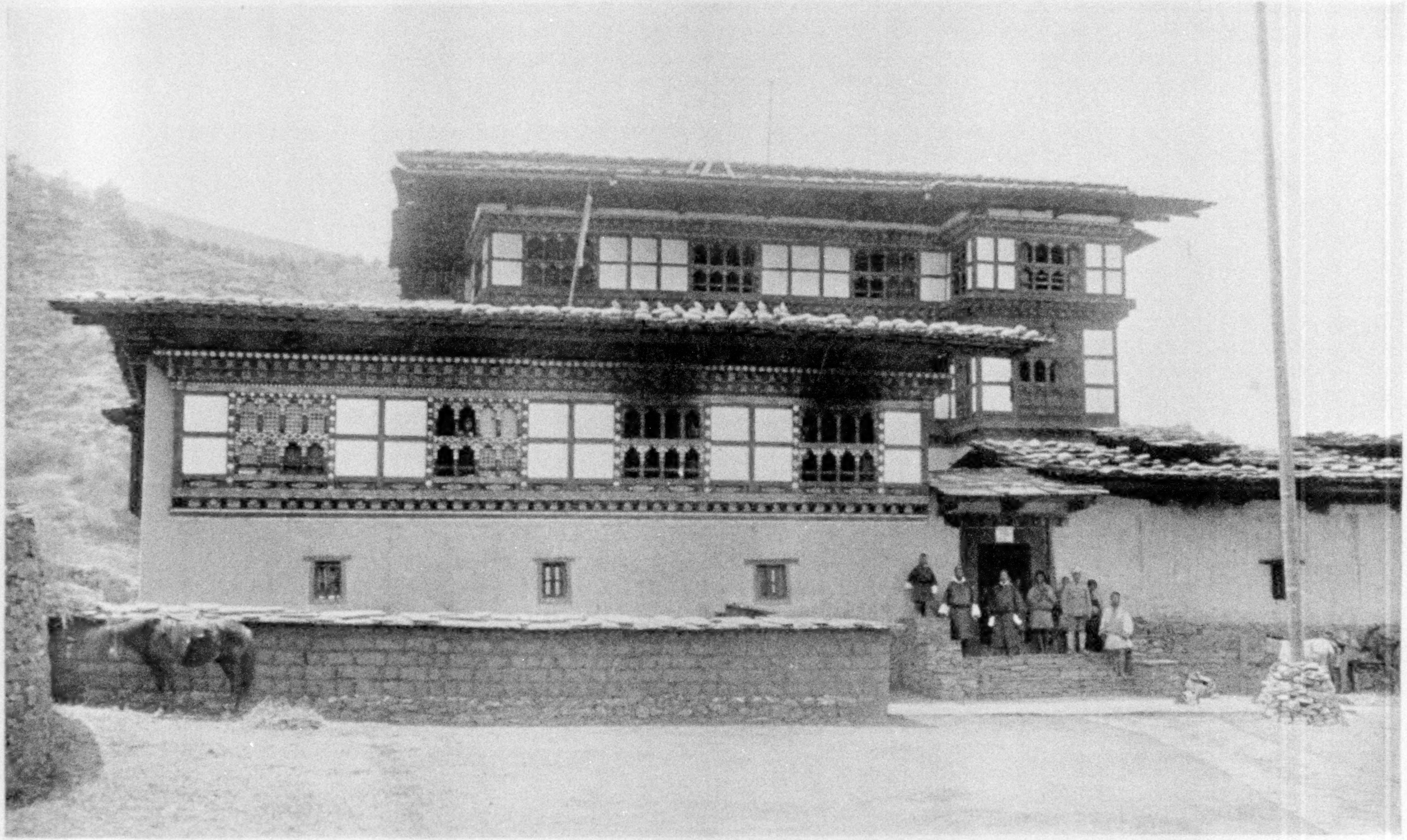


THIS VIEW SHOWS THE CITADELS OF PARO JONG TO ADVANTAGE, AND ON THE RIGHT THE DRAWBRIDGE TO THE ONLY ENTRANCE

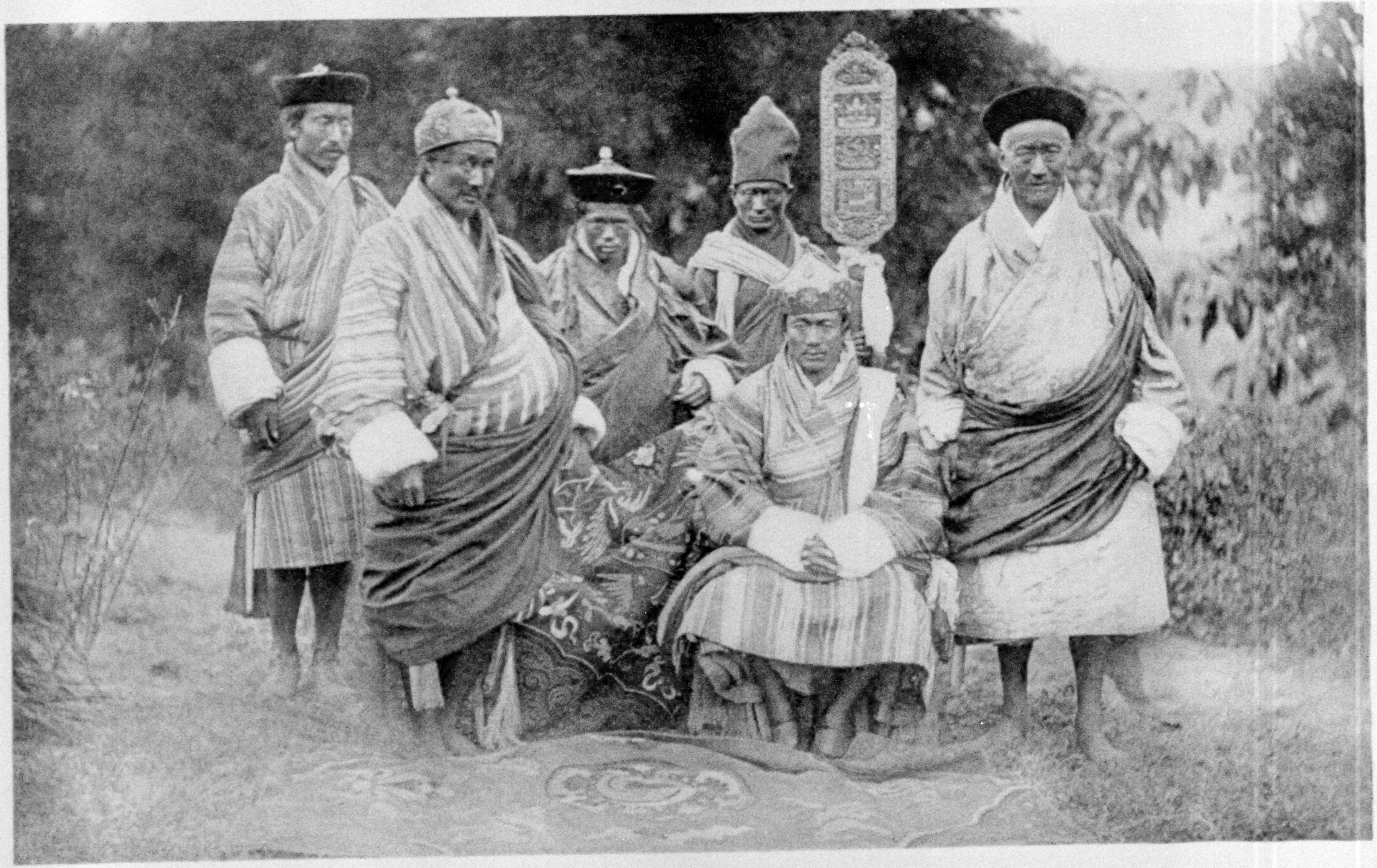
"I noticed old catapults for throwing great stones carefully stored in the rafters of the veranda" (see text, page 381)



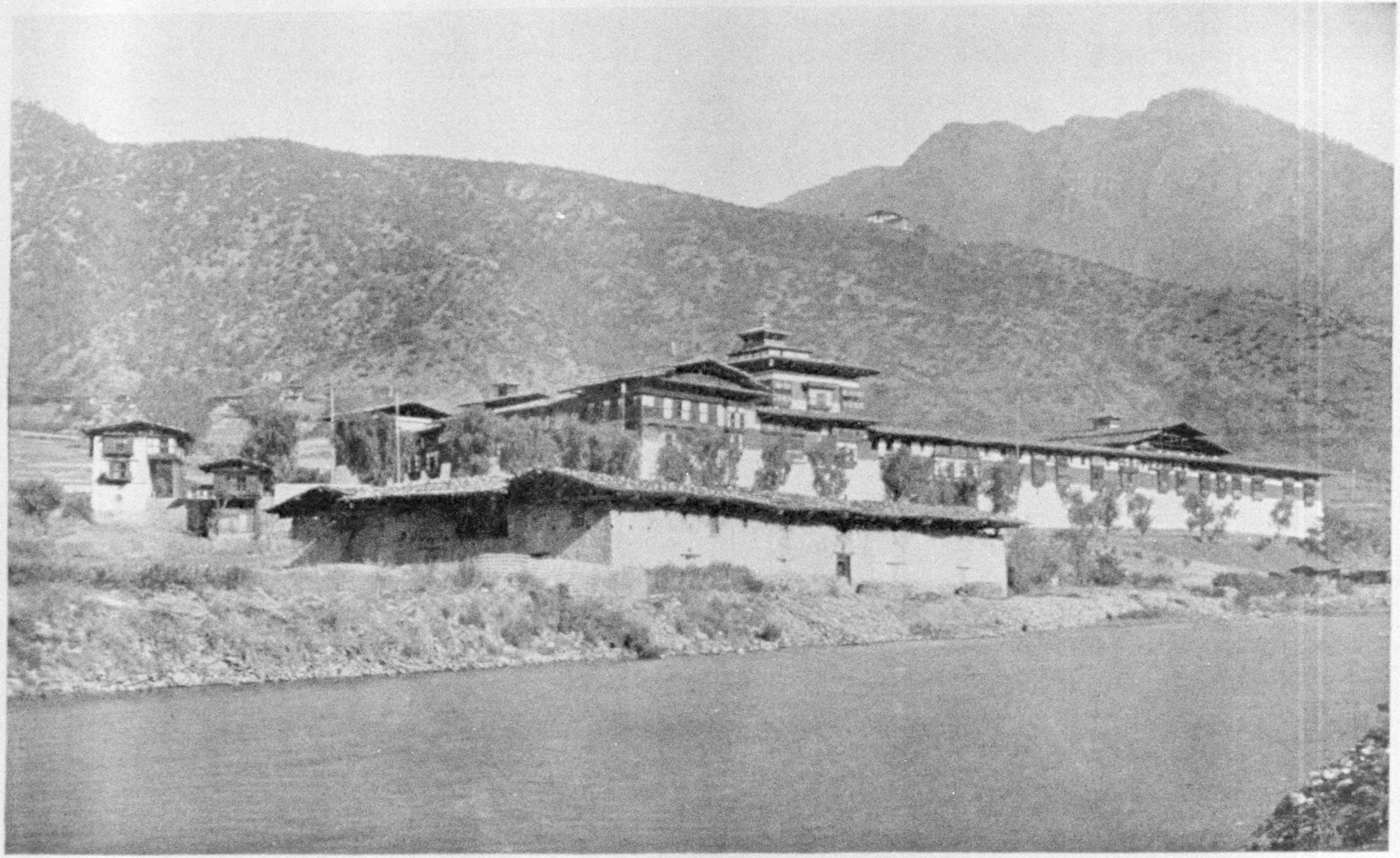
THE INTERIOR OF THE PARO JONG



THE PRIVATE HOUSE OF THE GOVERNOR OF PARO ACROSS THE PA-CHHU: HERE THE GOVERNOR (PENLOP) AND HIS FAMILY LIVE, AS NO WOMAN IS ALLOWED TO ENTER THE CASTLE (SEE TEXT, PAGE 381)



A GROUP OF BHUTANESE OFFICIALS. THE ONE SEATED IS THE GOVERNOR OF PARO JONG, AND IS COMMONLY CALLED THE PARO PENLOP (SEE PAGES 377 AND 381)



TASHI-CHO-JONG, THE SUMMER HEADQUARTERS OF THE BHUTAN GOVERNMENT (SEE PAGES 381 AND 383)

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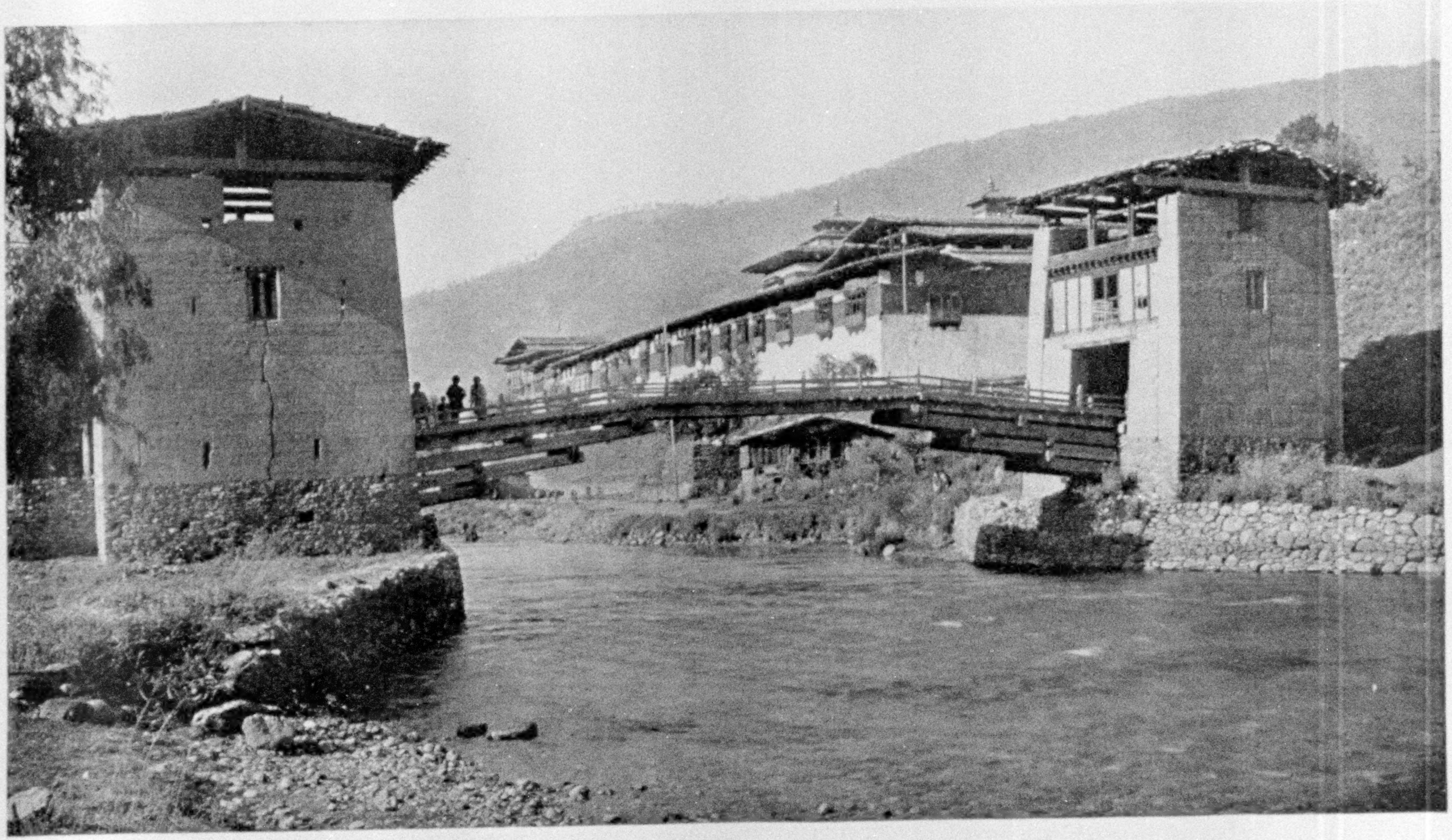


ANOTHER VIEW OF TASHI-CHO-JONG AND BRIDGE OVER THE THIMBU CHU. THE CRACKS IN THE BLOCKHOUSE WALLS WERE CAUSED BY AN EARTHQUAKE (SEE PAGE 381) them go entirely into seclusion, and they also have certain periods of time devoted to prayer corresponding to a retreat, during which they see no one.

THE LAMAS ARE DISLIKED AND FEARED

As a class the lamas are disliked, but also feared by the people, on account of the belief that the lamas have the power to do them harm.

As a rule, the lamas are ignorant, idle, and useless, living at the expense of the country, which they are surely dragging down.

As the lamas in Bhutan are fed, clothed, and housed at state expense, and as their numbers have steadily increased, they have become a very heavy burden which cannot long be borne and an evil which I hope may soon be curtailed by the method proposed by Sir Ugyen Wangchuk, namely, the gradual reduction by leaving vacancies, occurring through death and other causes, unfilled and the limitation of the number admitted to each monastery.

There are, of course, exceptions to every rule, and I have met several lamas, notably the Phodong lama of Sikkim, and others like him, men who were thoroughly capable, who acted up to their principles and whom I thoroughly respected; but, I am sorry to say, such men were few and far between. The majority generally lead a worldly life and only enter the priesthood as a lucrative profession and one which entails no trouble to themselves.

The march from Tashi-cho-jong to the Fort of Simtoka was a lovely one, crossing and recrossing a sparkling stream, through glades of oak, chestnut, and rhododendron, while the slopes of the hills were covered with pines (*Pinus excelsa*).

Simtoka-jong (see page 398) is situated on a projecting ridge, with deep gullies separating it from the main hill. It looks old and is not in very good repair.

On the four sides of the central square tower, instead of the usual row of prayer-wheels we found a row of square slabs of dark slate, carved in low relief, with pictures of saints and holy men. It was a wonderful collection of different types, with no monotonous repetition of the same figure, whence derived I cannot imagine, unless indeed of Chinese origin, as the variety reminded me of the 1,000 statues in the temple in Canton, where one figure is pointed out as Marco Polo In Simtoka one face is a very unflattering likeness of the German Emperor In the chapel itself, beneath a magnificent carved canopy, was one of the finest bronze images of Buddha that I have seen; it was supported on either side by a number of standing figures of more than life size.

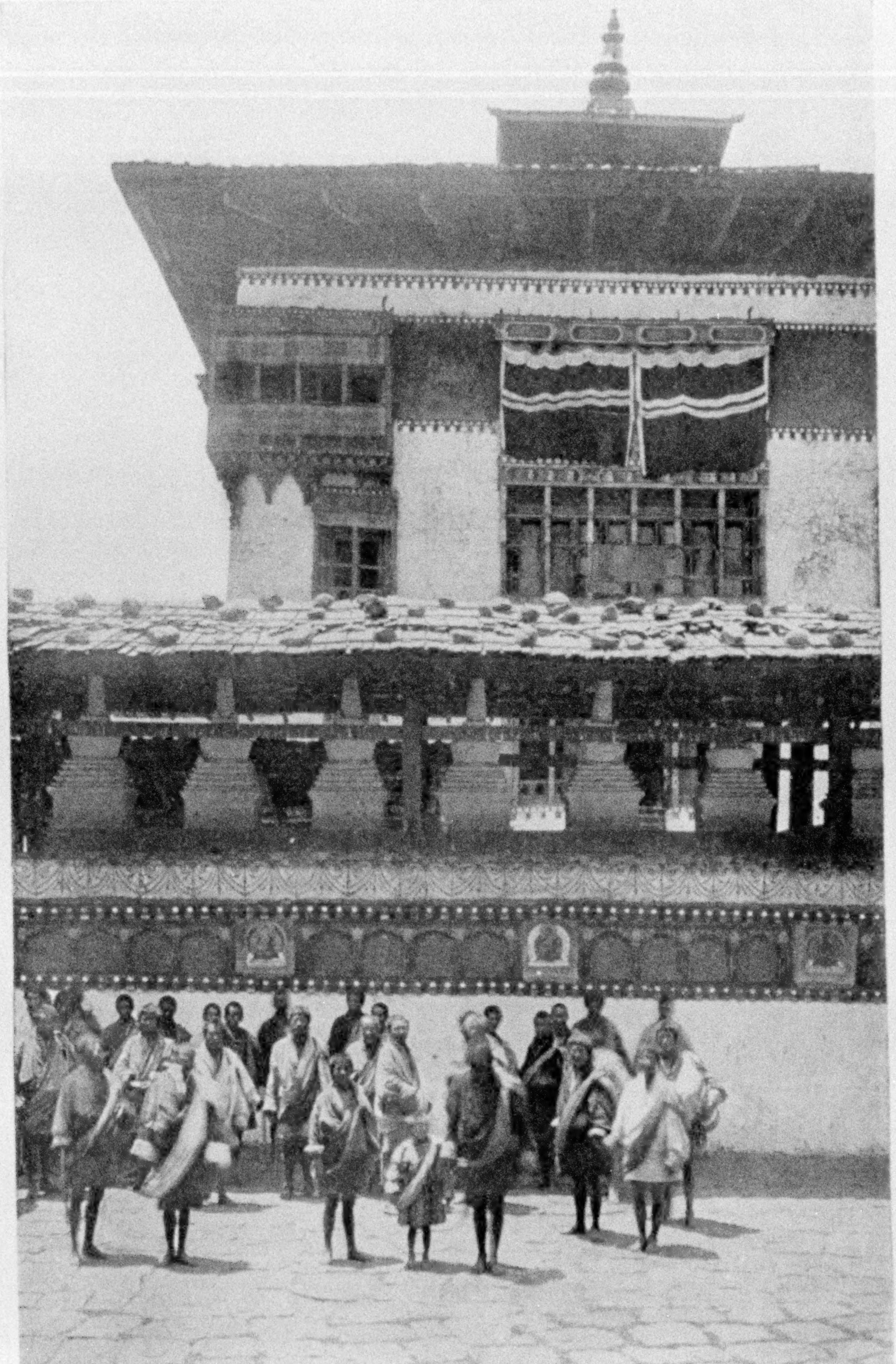
OUR PICTURESQUE RECEPTION AT POONAKHA

The entrance to Poonakha, which is the winter capital of Bhutan (see page 440), was picturesque and interesting in spite of the rain, which came down in torrents.

About four miles out we were met by a deputation from the Tongsa Penlop. He had sent the Ghassa Jongpen, who brought scarfs of welcome and baskets of fruit, oranges, plantains, and persimmons, in addition to sealed wicker-covered bamboos filled with murwa and chang. There were at least five or six gaily caparisoned mules for each of us to ride, sent by the Tongsa, the Poonakha Jongpen, Deb Zimpen, and others; so we had an abundance of choice. The Tongsa had also sent his band, which consisted of six men, two in red, who were the trumpeters, while the remainder, dressed in green, carried drums and gongs. The mass of colors of every hue was most picturesque, and we made a very gay procession as we started off again toward Poonakha.

At the point where the jong first comes in view a salute of guns was fired, more retainers met us, and our procession was joined by the dancers. The band and dancers preceded me down the hill, playing a sort of double tambourine and twisting and twirling to the beat as they descended the path. The procession must have extended for quite half a mile along the hillside.

First came the pipes and drums and escort of the 62d Punjabis, followed by some twenty led mules, most of them with magnificent saddle-cloths, with their



INTERIOR OF TASHI-CHO-JONG, SHOWING THE WALL DIVIDING THE PORTION OCCUPIED BY THE LAYMEN FROM THAT OF THE LAMAS

The citadel in the background and a group of orderlies in front (see also page 441)

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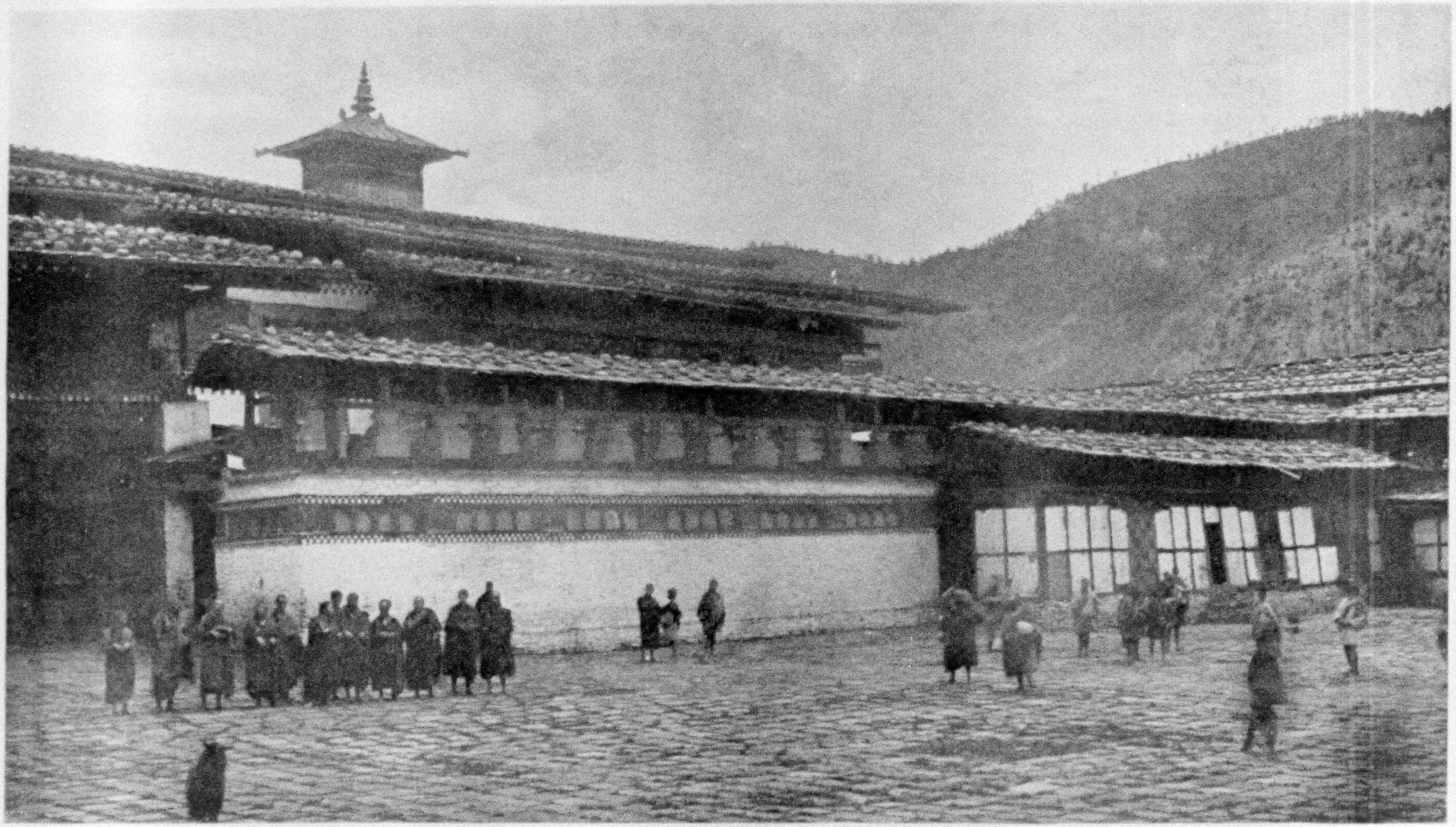
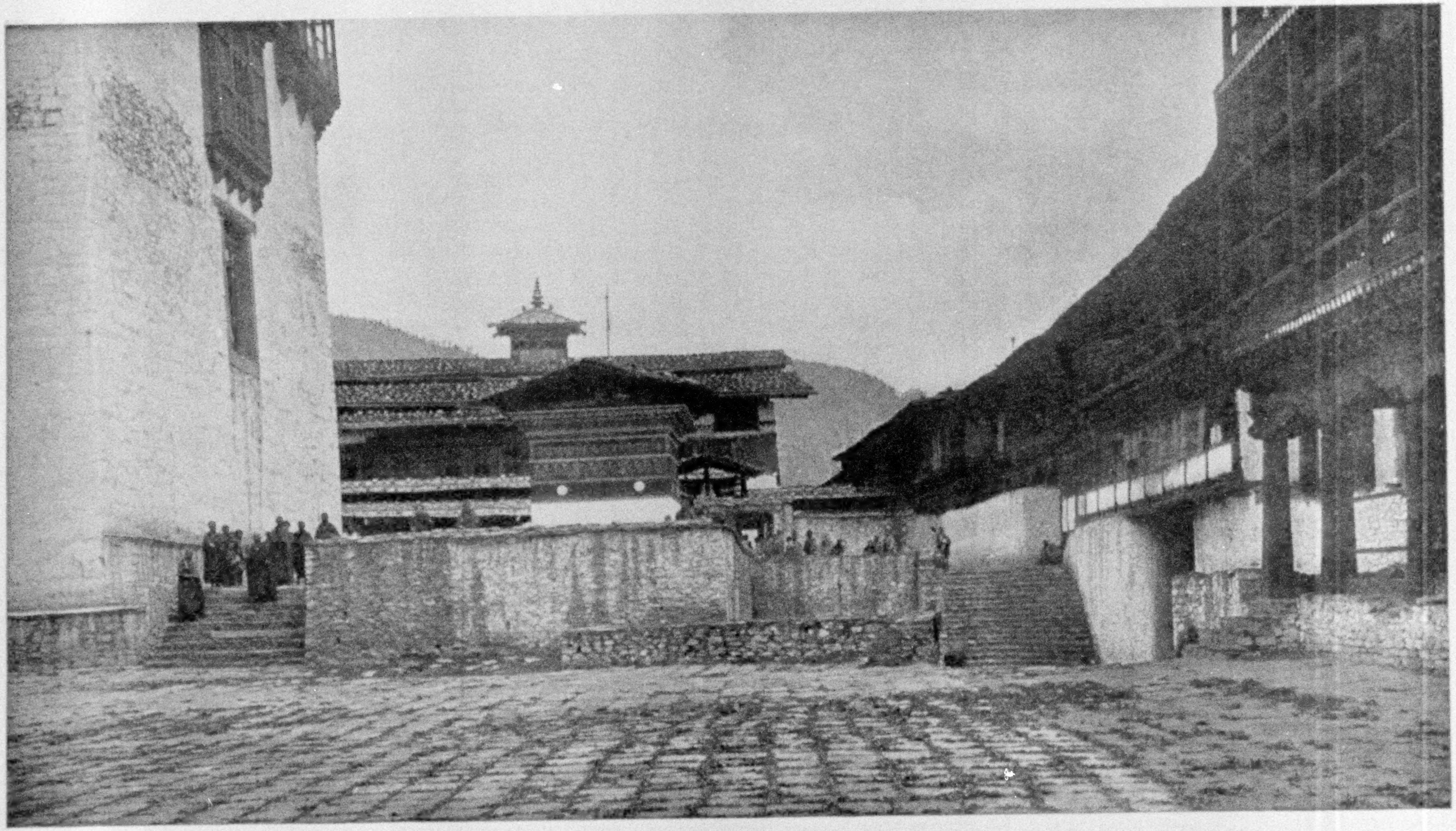


THE INTERIOR OF TASHI-CHO-JONG (SEE PAG 383)



A COURTYARD AT TASHI-CHO-JONG, WITH THE CITADEL ON THE LEFT AND A FINE CHORTEN, OR SHRINE, IN THE CENTER
(SEE PAGE 383)

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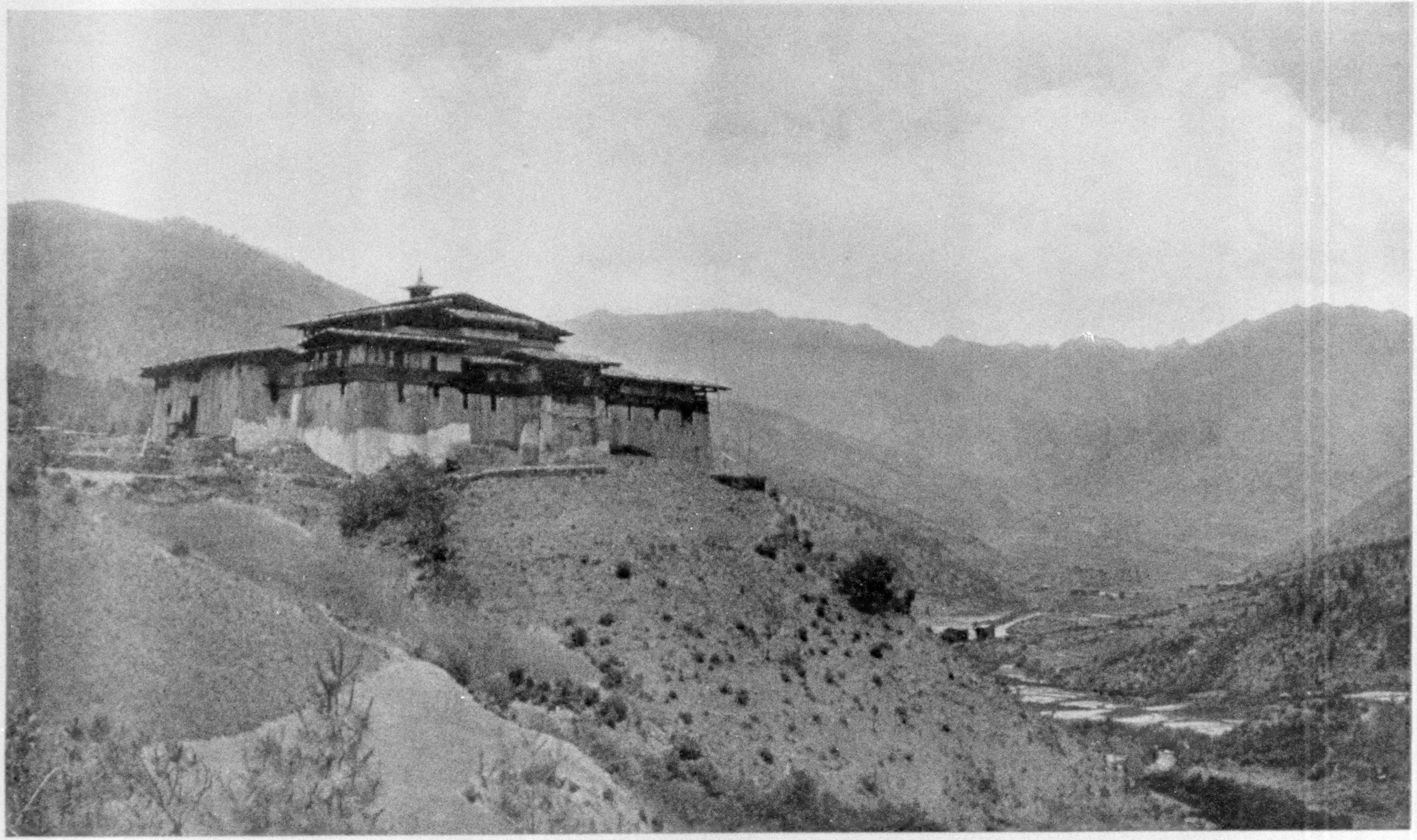
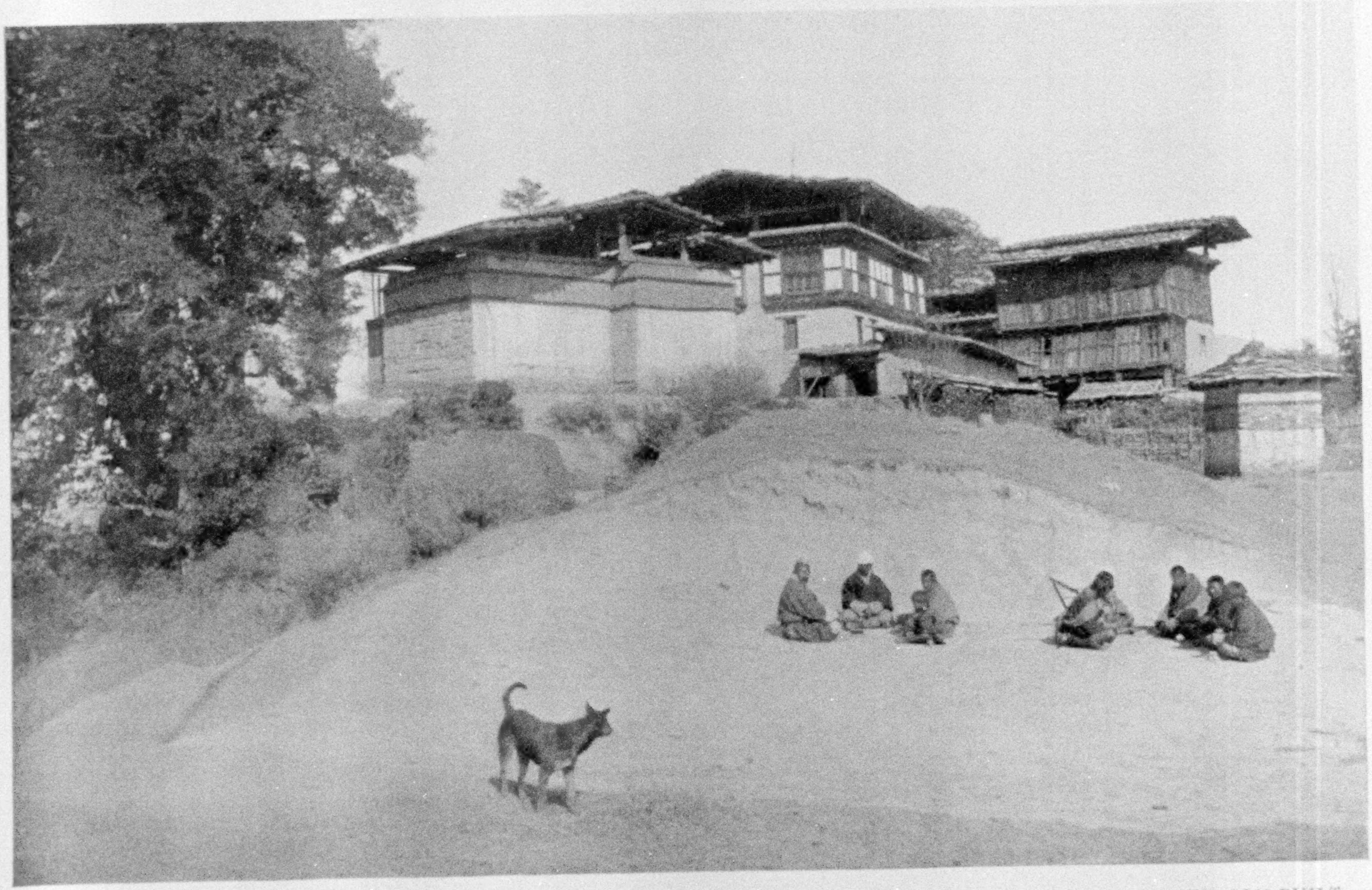
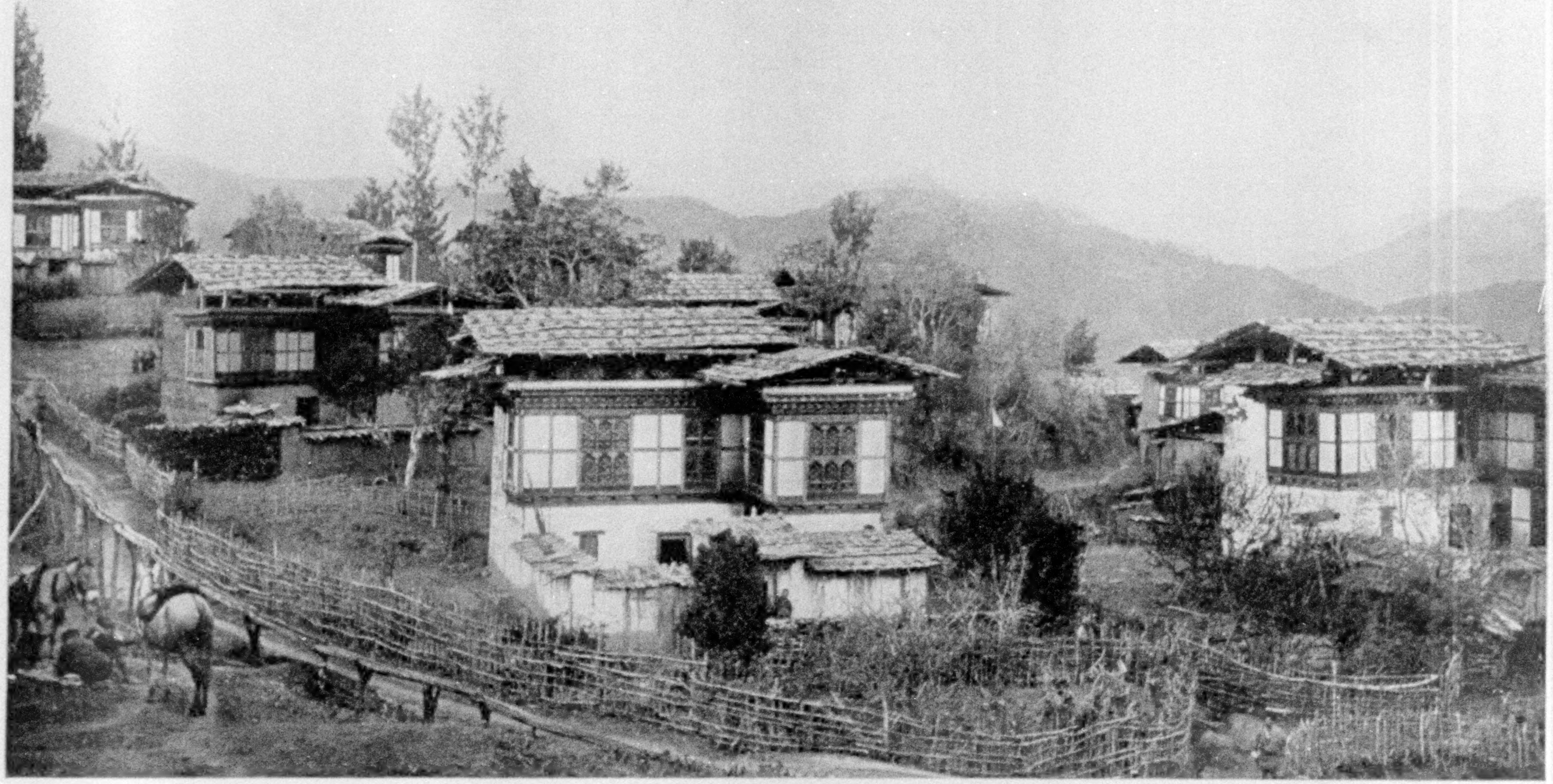


SIMTOKA JONG, ONE OF THE OLDEST FORTS IN BHUTAN AND ONE FOR THE POSSESSION OF WHICH THERE HAVE BEEN MANY FIGHTS
(SEE PAGE 394)

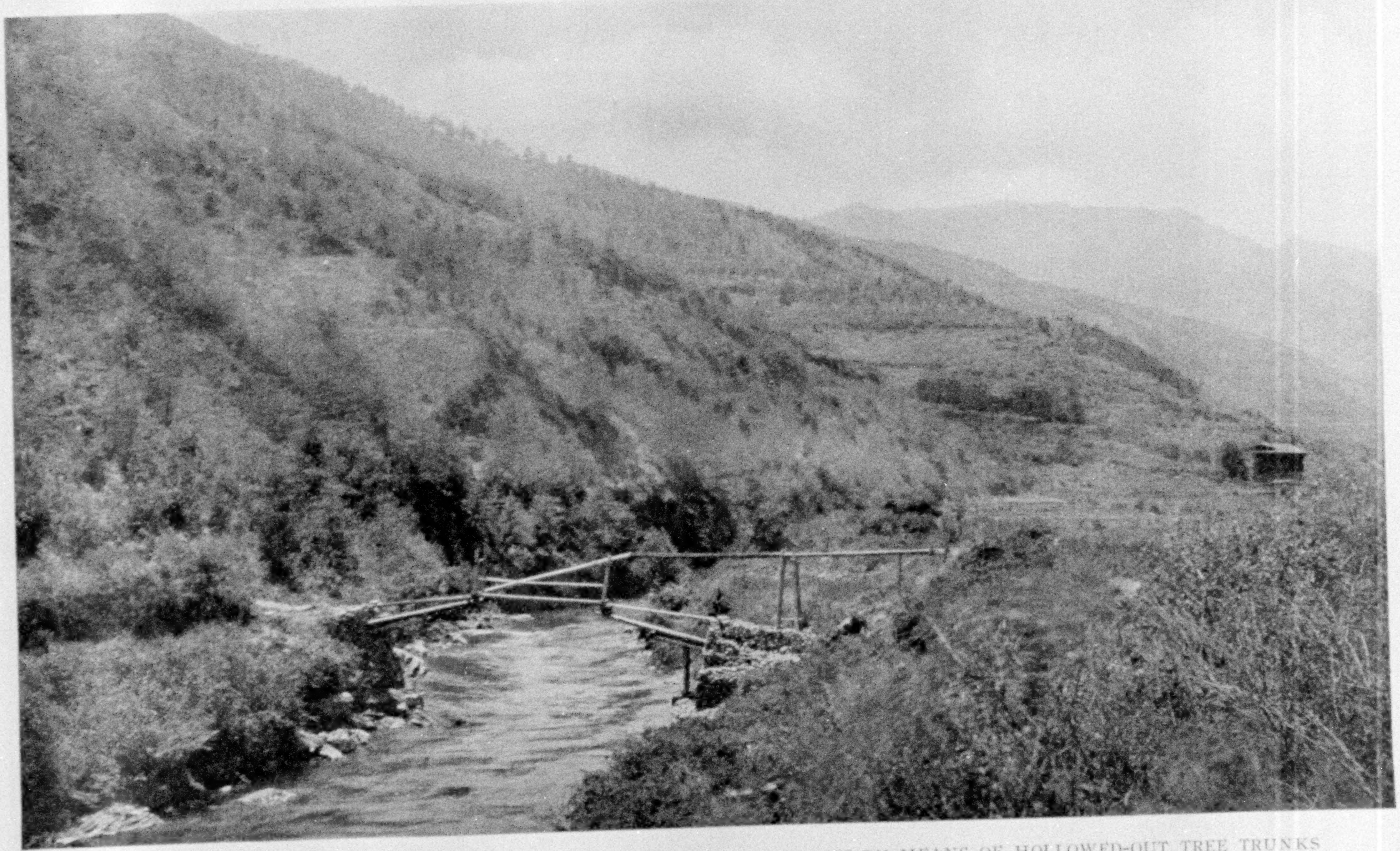


A FARM-HOUSE OF THE BETTER TYPE IN THE PARO VALLEY: THE HOUSES ARE ALL LARGE AND SUBSTANTIALLY BUILT



A PRETTILY SITUATED BHUTAN VILLAGE, WITH ALPINE SCENERY AND GROUP IN FOREGROUND

"My experience of the people is that they are universally polite, civil, and clean. I had every opportunity of judging, as I entered numerous houses and temples in all parts of the country, and invariably found them clean and tidy. In many of the houses the floors were washed and polished, and the refreshments they hospitably pressed on me were served in spotlessly clean dishes" (see text, page 369).



METHOD OF CARRYING WATER ACROSS A RIVER FOR IRRIGATION PURPOSES BY MEANS OF HOLLOWED-OUT TREE TRUNKS

The Bhutanese are great irrigators and in places their water channels are carried along the hillsides for miles syces and other retainers; next the bodyguard of the Tongsa, about twenty men, dressed in beautiful silks and brocades and each with a yellow scarf. The band and dancers followed immediately in front of myself and my party, and we again were followed by my orderlies and servants, who were all mounted and wearing their scarlet uniforms. On account of the narrow path, the procession had to proceed in single file, and as we gradually wended our way across the bridge we must have made a brave show for the country folk, who had flocked out in thousands to watch our arrival.

In camp waiting to receive me were all the principal Bhutanese officials—the Tongsa Penlop himself (now the king), the Thimbu and Poonakha Jongpens, the Zung Donyer and Deb Zimpon. The first three I had met in Tibet; the last two at Buxar.

They greeted me most cordially and condoled with me on the weather, inquired about our journey, and hoped we had had no great difficulties. Then in a short time, the rain having ceased, they took their departure and left us to settle down in our quarters. For myself a large, comfortable Swiss cottage tent had been pitched; two others with embroidered tops, cook-houses and quarters for the followers, together with my own camp equipage, made a very luxurious encampment.

AN IMPREGNABLE FORTRESS

I also had a great compliment paid me, as the Deb Raja's band played in front of us all through the outer courtyard across the river and right into the camp, an honor not even paid the Tongsa Penlop himself beyond the bridge.

Poonakha, lying between the rivers, is easily supplied with water; but other forts built on a ridge have some difficulty, and are in many cases, as at Dug-gye, obliged to build sunk passages zigzagging down to the valley and protected by towers at each turning to insure a supply of water in the event of a siege. Where a fort is built on the side of a hill, as at Paro and at Tongsa, protecting towers are always built above it.

The plan nearly always followed in the forts is that of a rough parallelogram divided into courts. The main entrance in Poonakha is approached by a steep flight of wooden steps about 20 feet in height, which in time of emergency can be easily removed, leading to the gateway, a massive wooden structure, easily closed and invariably shut at night.

Through the gateway the first court is reached. The main citadel is situated in this, at the south end, a square building, about 40 feet at the base and 80 feet high, and flanking the court on all sides are the two-storied buildings used as residences by the lay officials. Beyond the citadel there is another court, also surrounded by double-storied dwellings, and in the building dividing this court from the next is the larger Durbar Hall, which stretches across the whole width. Next comes another and smaller court, within which, to the south, stands the second and smaller citadel, inclosed by more buildings.

Beyond comes another court, given up entirely to the Ta-tshang lamas, numbering about 3,000, the large temple standing in the center. The lamas' cells occupy two sides of the court, the third side overlooking the junction of the rivers.

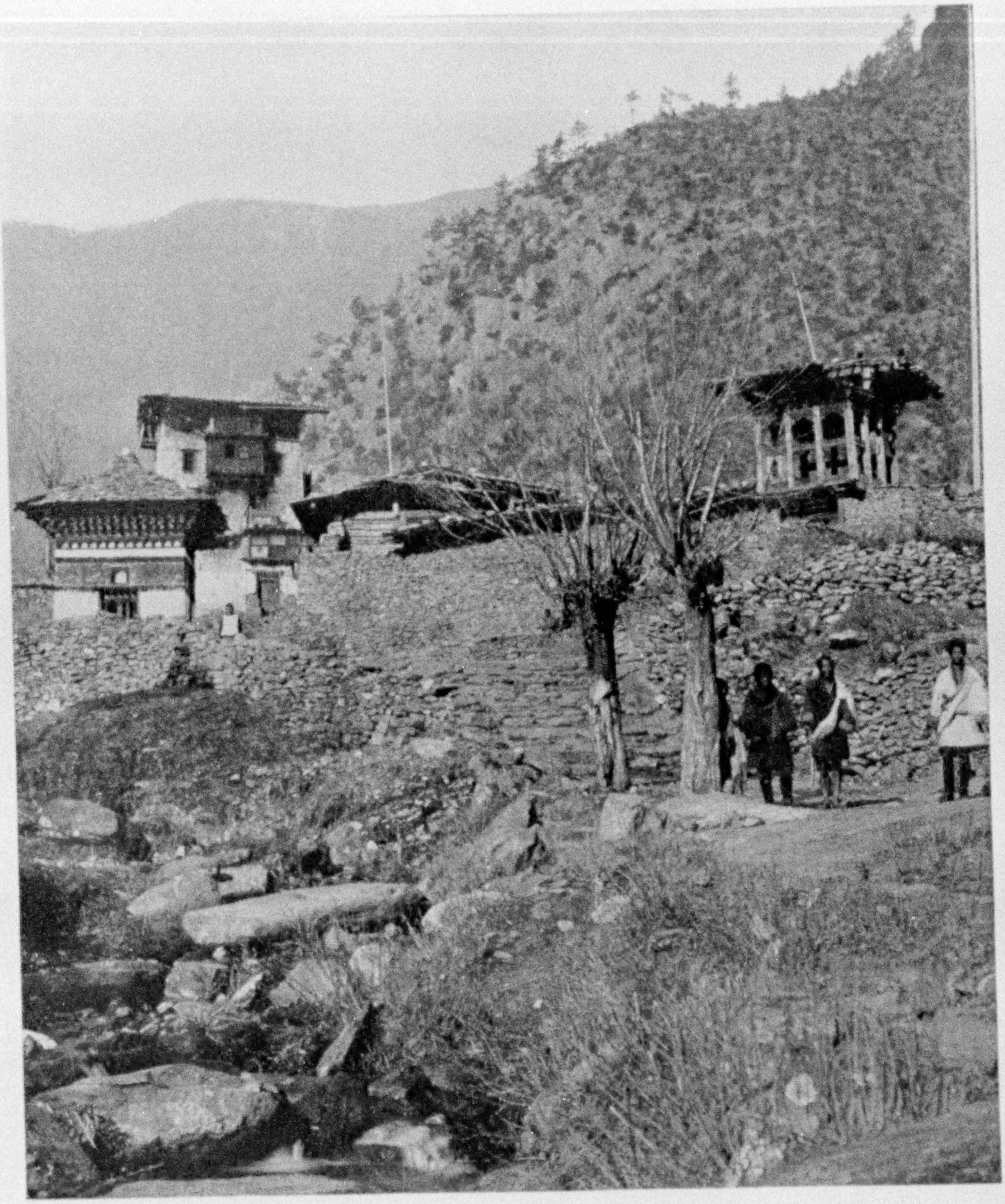
Underneath these courts are a few store-rooms for the housing of grain, but the greater part is filled in with earth and rock.

All the buildings are roofed with shingles made of split wood, and in this the great danger, that of fire, lies, as the shingles are easily set alight; but otherwise, in the days of bows and arrows, such forts were practically impregnable, and this one could, if necessary, house 6,000 souls or even more.

A QUAINT CEREMONY

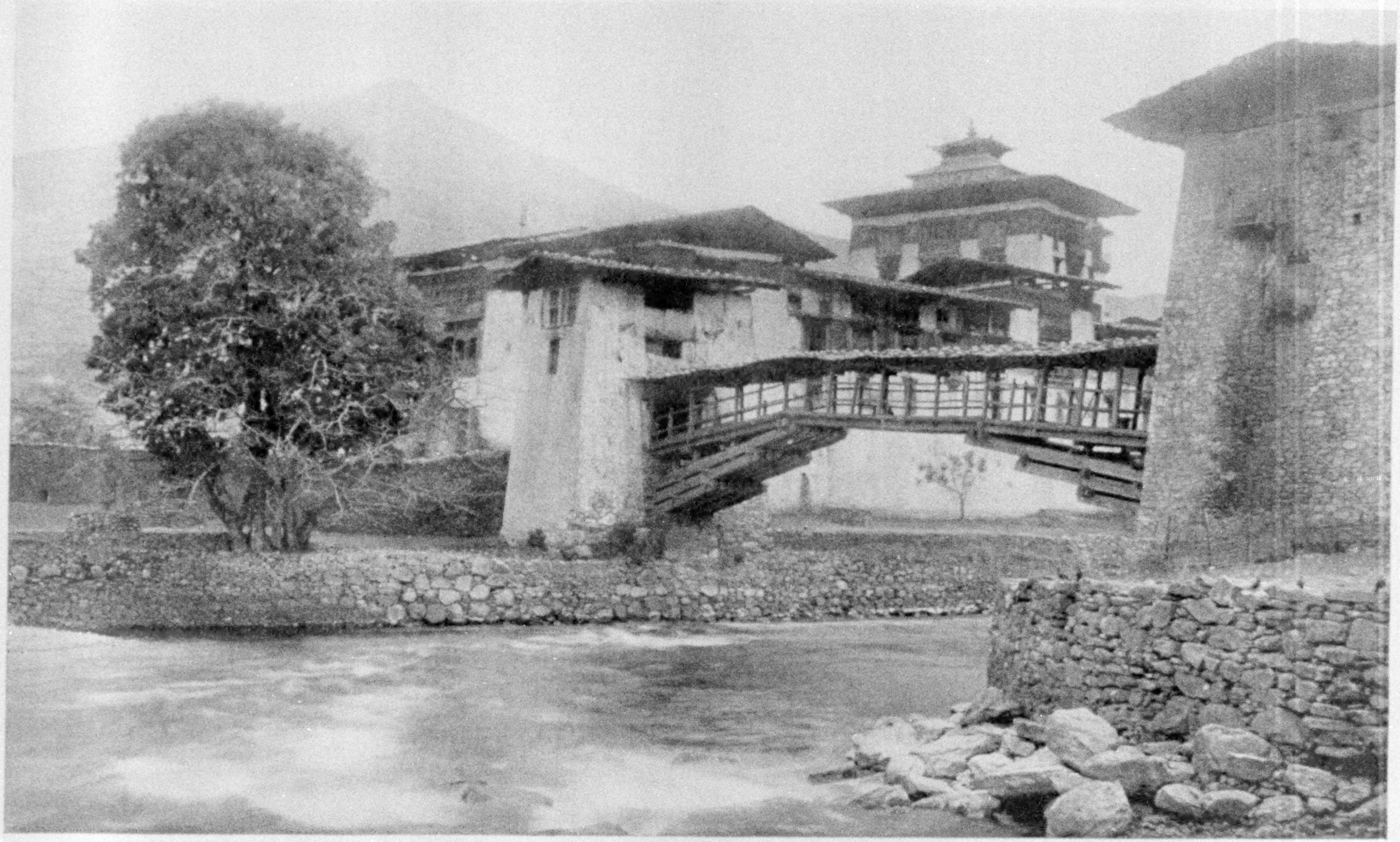
I spent many days here preparing for the Durbar, which proved of such interest that I give a full account of it. Unfortunately, on the morning of the Durbar it rained heavily, but cleared up before the ceremony began. This took place in the Palace of Poonakha, in the large hall.

When everything was in readiness in the palace, a small procession from camp was formed. Major Rennick and myself, in full-dress uniform, preceded by our



HAH VILLAGE: A GOOD EXAMPLE OF BHUTANESE TIMBERED HOUSES

XUM



POONAKHA, SHOWING THE BRIDGE OVER THE MO-CHHU, THE ONLY APPROACH FROM THE WEST

Before the days of cannon and arms of precision this was a very strong position; now it can be dominated from the hills on all sides (see text, pages 394-402, and also page 440) escort, commanded by Subadar Jehandud Khan, a native officer of the 40th Pathans, proceeded to the fort, where we were ushered with great ceremony into the Durbar Hall. This is a fine, handsome room, with a wide balcony overlooking the Po-chu, and a double row of pillars forming two aisles. The center or nave, a wide span open to the lofty roof, was hung with a canopy of beautifully embroidered Chinese silk.

Between the pillars were suspended "chenzi" and "gyantsen" hangings of brilliantly colored silks, and behind the tongsa's seat hung a fine specimen of needle-work picture, a form of embroidery in which the Bhutanese excel (page 445) and which compares favorably with anything I have seen in other parts of the world, even in Japan or China. At the upper or north end of the room was the high altar and images always to be met with in Bhutanese chapels, and in front of this was a raised dais, on which sat the Deb Raja, a rich yellow silk stole over his red monastic dress, with the Abbot of the Poonakha Ta-tshang lamas, in ordinary canonicals, on his left (see page 406).

To the right of the dais was a row of four scarlet-covered chairs for myself, Major Rennick, Mr. Paul, and the subadar, and in front of each chair was a small table with fruit and refreshments. Close behind me stood my servants with presents.

On the opposite side of the nave, facing me, was a low dais with a magnificent cushion of the richest salmon-colored brocade, on which Sir Ugyen Wangchuk sat, dressed in a handsome robe of dark-blue Chinese silk, embroidered in gold with the Chinese character "Fu," the emblematic sign of good luck. Below him were ranged the chairs of the officials present in order of their rank.

In the aisles were double and treble rows of the chief Ta-tshang lamas seated on white carpets, while four flagellants, carrying brass-bound batons of office and formidable double-thonged whips of rhinoceros hide, walked up and down among the rows to maintain order. At the lower end, by which we had entered, were collected the subordinate officials of the court, standing, with my own escort formed up in front of them, facing the Deb. It was altogether a brilliant and imposing scene.

KNIGHTING THE PRESENT KING

After my party and the high officials of state, who had risen on my approach, had taken their seats, there was a short pause for order and silence to be restored. I then rose and directed Rai Lobzang Chöden, my interpreter, to read a short address in Tibetan, and on its conclusion I stepped forward, with Major Rennick carrying the insignia and warrant on a dark-blue cushion fringed with silver, in front of the Deb Raja (see page 436) as the Tongsa Penlop (Sir Ugyen) advanced from his side to meet me.

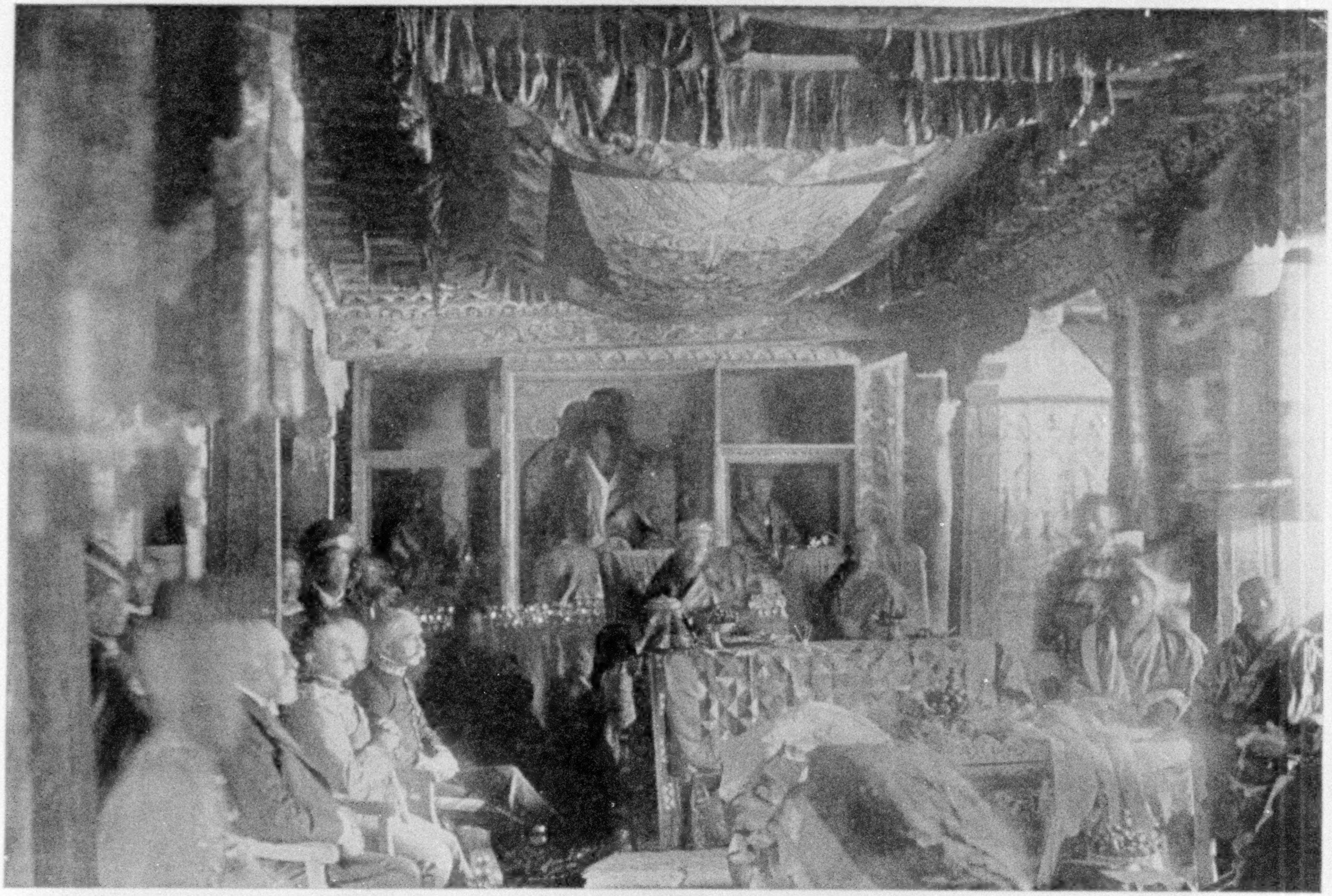
I placed the ribbon of the order round his neck, pinned on the star, and handed the warrant to Sir Ugyen, who suitably expressed his most grateful thanks for the honor the King-Emperor had conferred on him. I then handed him presents and, placing a white silk scarf in his hands, offered my hearty congratulations and good wishes.

The presentation of gifts by the remainder of my party brought our part of the ceremony to a close. Sir Ugyen Wang-chuk then turned and made his obeisance to the Deb Raja, who, as Chole Tulku, is the head of the Bhutanese Church, awaiting the reincarnation of the Dharma Raja, and received his blessing. In like manner Sir Ugyen also received the blessing of the abbot.

Now began an almost interminable procession of lamas, officials, and retainers, each bringing a scarf and presents, till Sir Ugyen was almost smothered in scarfs, while the whole nave from end to end gradually became filled up with heaps of tea, bags of rice and Indian corn, rolls of fabrics—silk, woolen, and cotton—of all colors and values, with little bags of gold dust and rupees appearing on the top (see page 407).

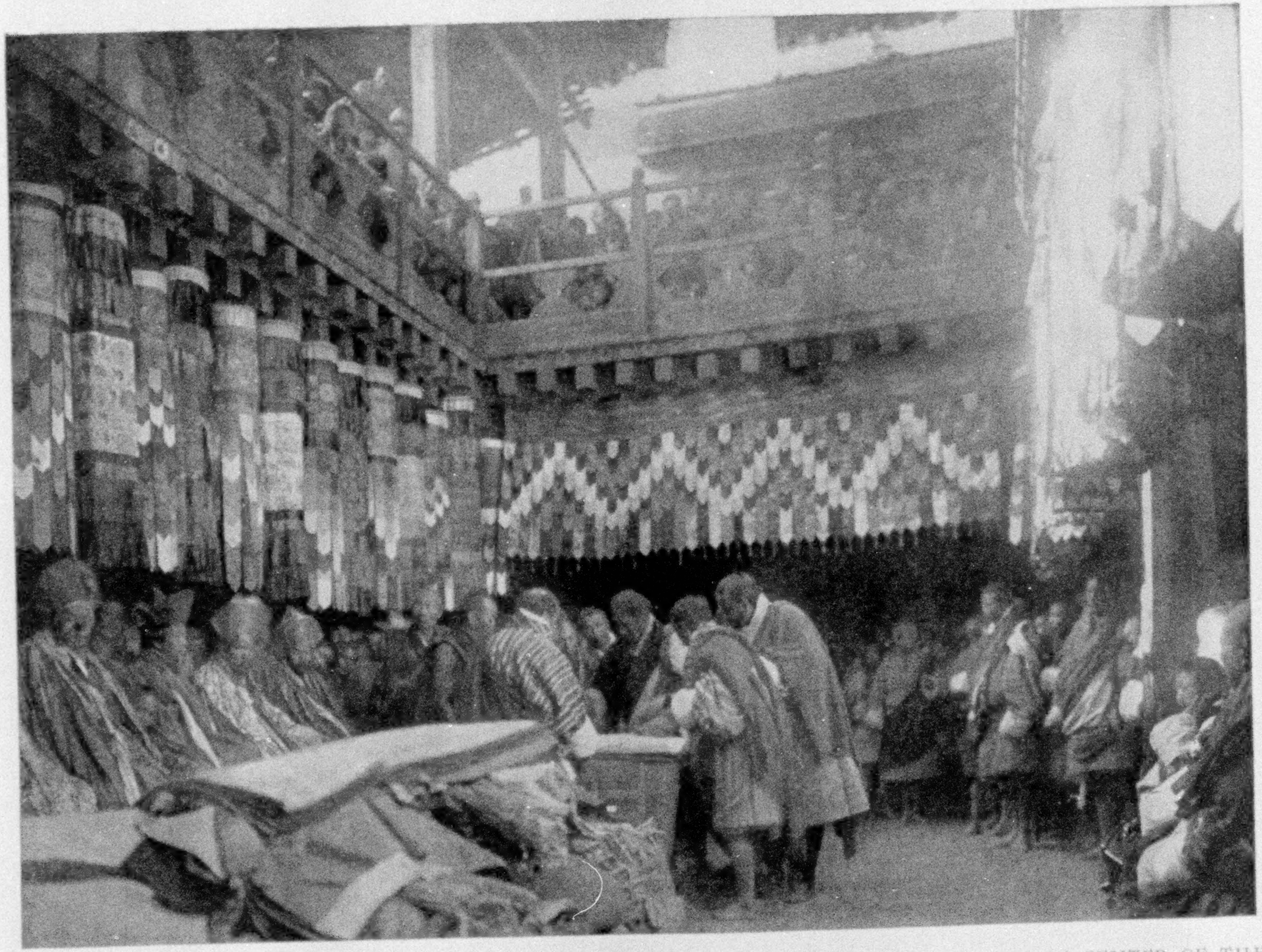
As each present was placed on the floor the name of the donor was announced. I had no means of verifying, but I should think there were at least 200 donors. It

XUM



THE DURBAR AT POONAKHA

From right to left: Thimbu Jongpen; Sir Ugyen, seated, covered with scarfs; behind him is Ugen Dorji; the Ta-tshang abbots seated before the altar, which is covered with offerings of fruit; the author, Major Rennick, and Mr. Paul. Notice the dish of fruit in front of each and the magnificent silk hangings and coverings (see page 405).



AT THE DURBAR, LOOKING DOWN THE ROOM, SHOWING THE LARGE HEAP OF PRESENTS IN THE CENTER OF THE HALL

The officials are writing down the names of the donors, and on the left are seated the Ta-tshang lamas in gorgeous robes, while all round the hall are brilliant brocade silk hangings, and an especially handsome line of circular flags above the Ta-tshangs (see page 405)

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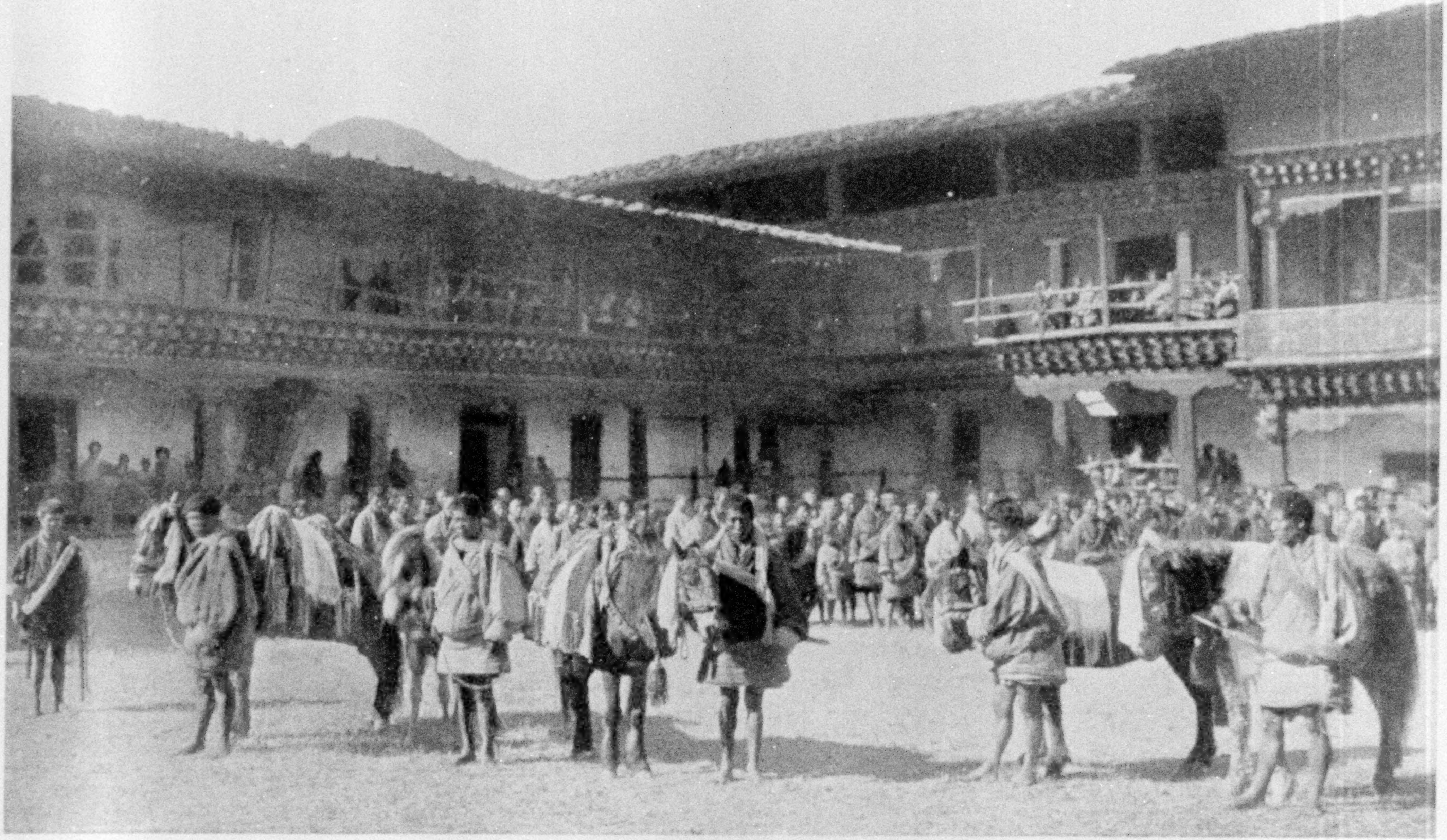


THE COURTYARD AT POONAKHA AFTER THE DURBAR, WITH GAILY DECORATED MULES AND PONIES, EACH WITH ITS ATTENDANT was amusing to watch the emulation among them and the flourishes some of them gave as they dumped the presents with a bang on the floor and whipped out the scarfs to their full length. The presentation of white silk scarfs on the meeting of officials with superiors, equals, or subordinates is a universal custom in Bhutan.

When these congratulations came to an end, tea and refreshments were offered to all the company of guests, including the lamas in the aisles, who at each course intoned a sort of grace. Finally beetel and pan were distributed. (Beetel-nut is the fruit of a palm and pan is an astringent leaf, which, eaten with a small quantity of lime, is much prized by the Bhutanese.)

AN INTERESTING BEER CEREMONY

At the commencement of the feast a large cauldron of *marwa*, or beer of the country, was placed at the lower end of the nave and a curious ceremony was gone through. The Zung Donyer, with a long, bowl-shaped ladle, mixed the liquid three times; then, holding up the bowl full of beer in one hand, raised the other in prayer.

This ceremony he repeated three times and then advanced with the ladle full to the Deb Raja (see page 436), who blessed it; he then turned to the Tongsa, upon whose hands a small portion was poured; and, finally, the Donyer returned and poured the remainder into the cauldron, which was removed doubtless for the refreshment of the crowd of onlookers, who were not of sufficient importance to share the tea and refreshments dispensed in the Durbar Hall.

Next, with great ceremony, a wooden spear, with a piece of red cloth and a white silk scarf fastened to the base of the head, was carried to the Deb and blessed; it was then waved over the Tongsa, who reverently touched the end of the shaft. The spear was then sent to the Tongsa's apartments.

The final act in the ceremonial was a short prayer, led by the Deb and intoned by the lamas, and with this the proceedings ended and we returned to camp.

It was a most interesting ceremony and conducted throughout with the greatest order and reverence and it passed off without a hitch of any kind. It says a good deal for the change in the conduct of affairs in Bhutan and their anxiety to show respect to the British government that they should have made the presentation of the decoration to the penlop the first occasion of so public and elaborate a ceremony, as I understand that hitherto it has been the custom of the recipient of an honor merely to go to the Deb and head lamas to receive their blessing, while congratulations and presents were received at his private dwelling.

THE SPIRITUAL CAPITAL OF THE NATION

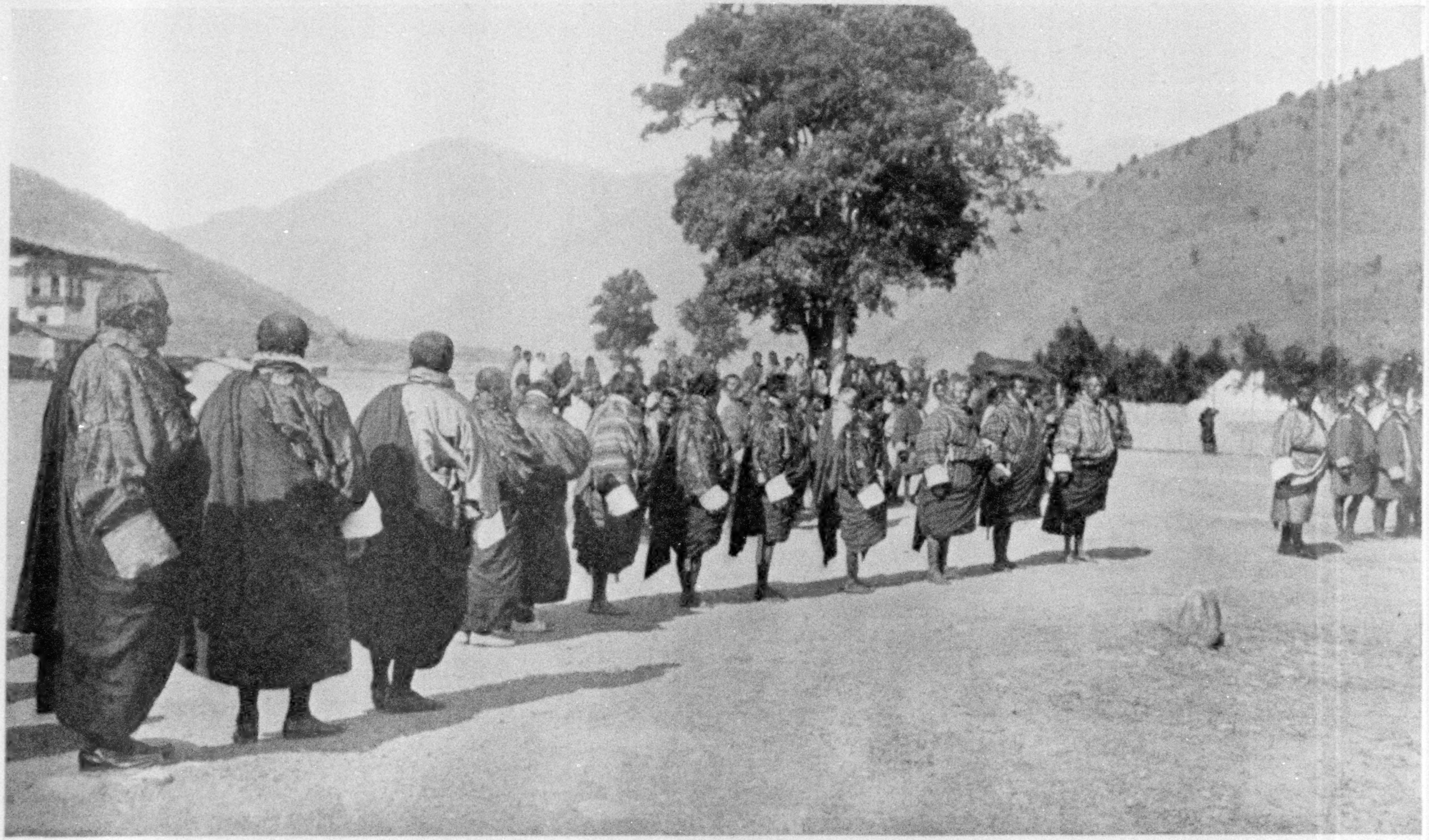
While at Poonakha I paid a visit to the Ta-lo Monastery, which was only reached after three hours' hard climbing. This monastic colony is a charming collection of small, well-built, two-storied houses, with carved and painted verandas scattered all over the hillside, each in its little garden of flowers and trees, with here and there a chapel or decorated *chorten*, or shrine, to break the monotony.

The great temple, with its somber background of cypress and pine, dominates the scene, but higher up the beautifully decorated retreat of the late Dharma Raja formed a fitting crown to the whole group of buildings. In the great temple were many chapels, all scrupulously clean and well ventilated, glass window-panes being in great evidence.

The principal objects of interest were two large silver *chortens* containing the ashes of two of the Shabdung Rimpoches. They were highly chased and jeweled, the stones being mostly turquoise. The ceremonial instruments used by the late Dharma Raja were preserved here and were fine examples of the best Bhutanese metal work.

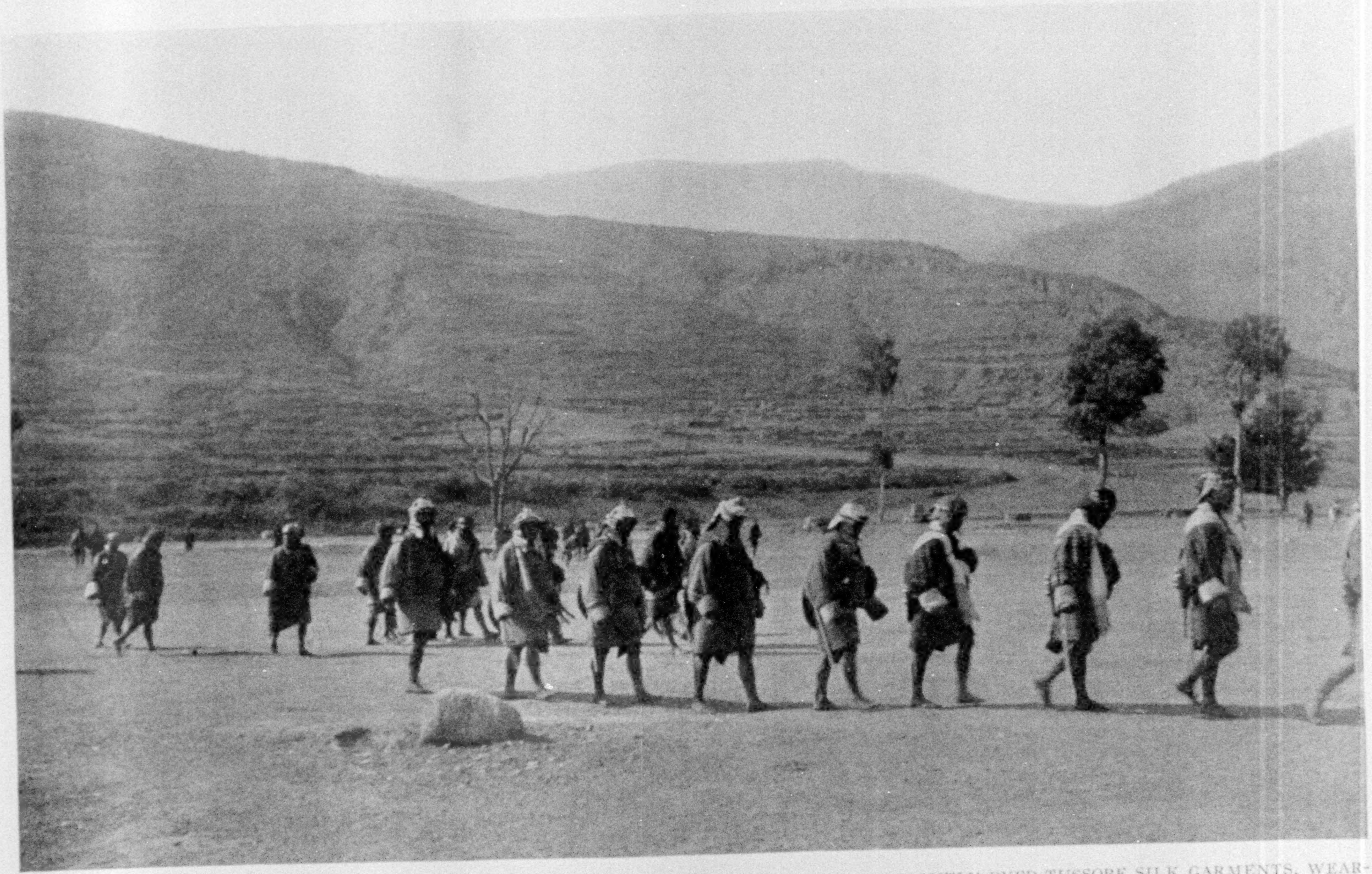
The carving on the pillars and canopies was excellent, but so much overladen by open-work metal scrolls it was difficult to follow in detail. An elephant's tusk before one of the altars measured 8½ feet, and there was a magnificent collection of embroidered and appliqué banners; in fact, the whole building was full of treasures.

I was received with open arms and

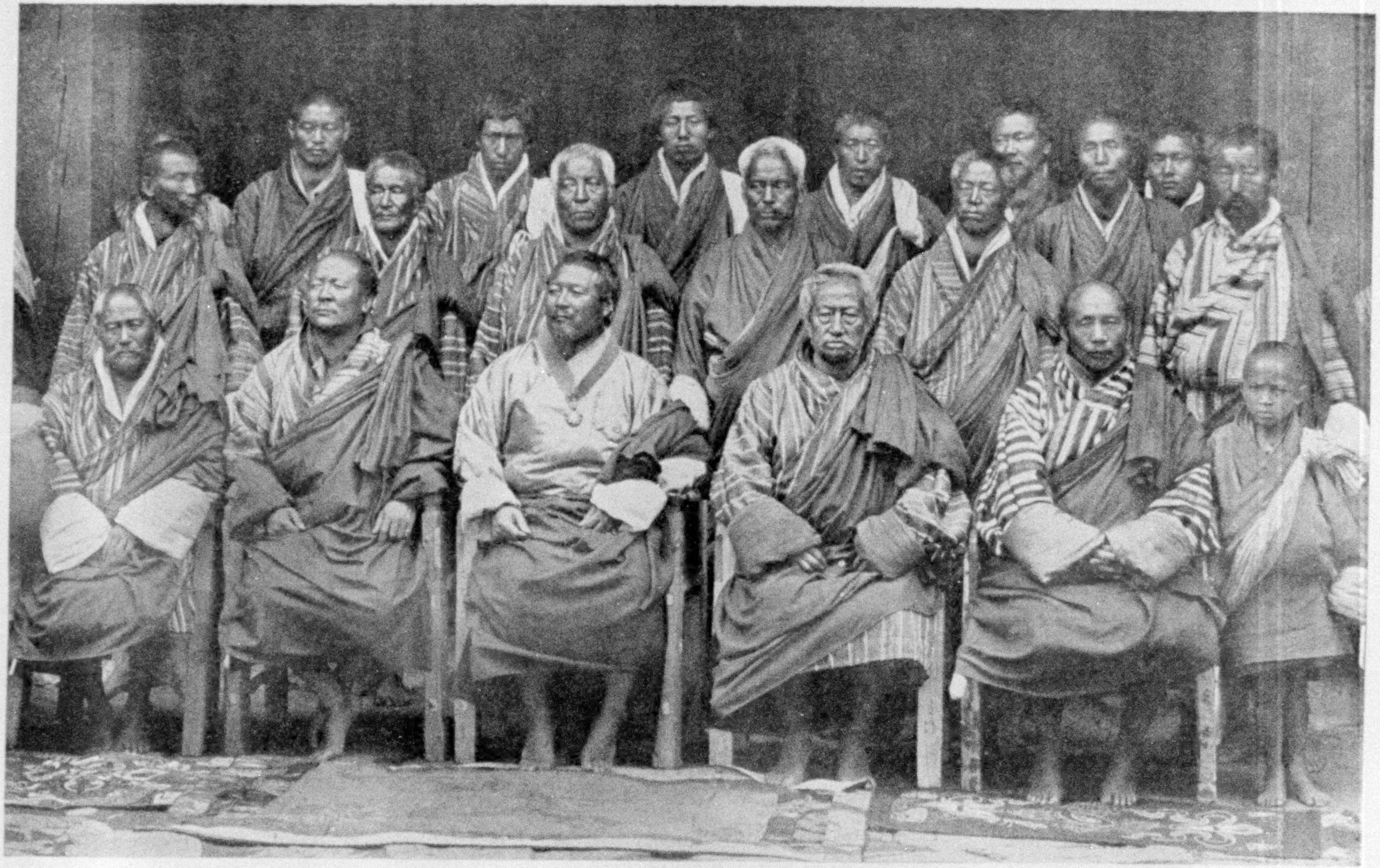


THE BHUTAN OFFICIALS ON THEIR WAY TO AUTHOR'S CAMP AFTER THE DURBAR

The three on the left are the Paro Penlop, the Thimbu Jongpen, and Sir Ugyen

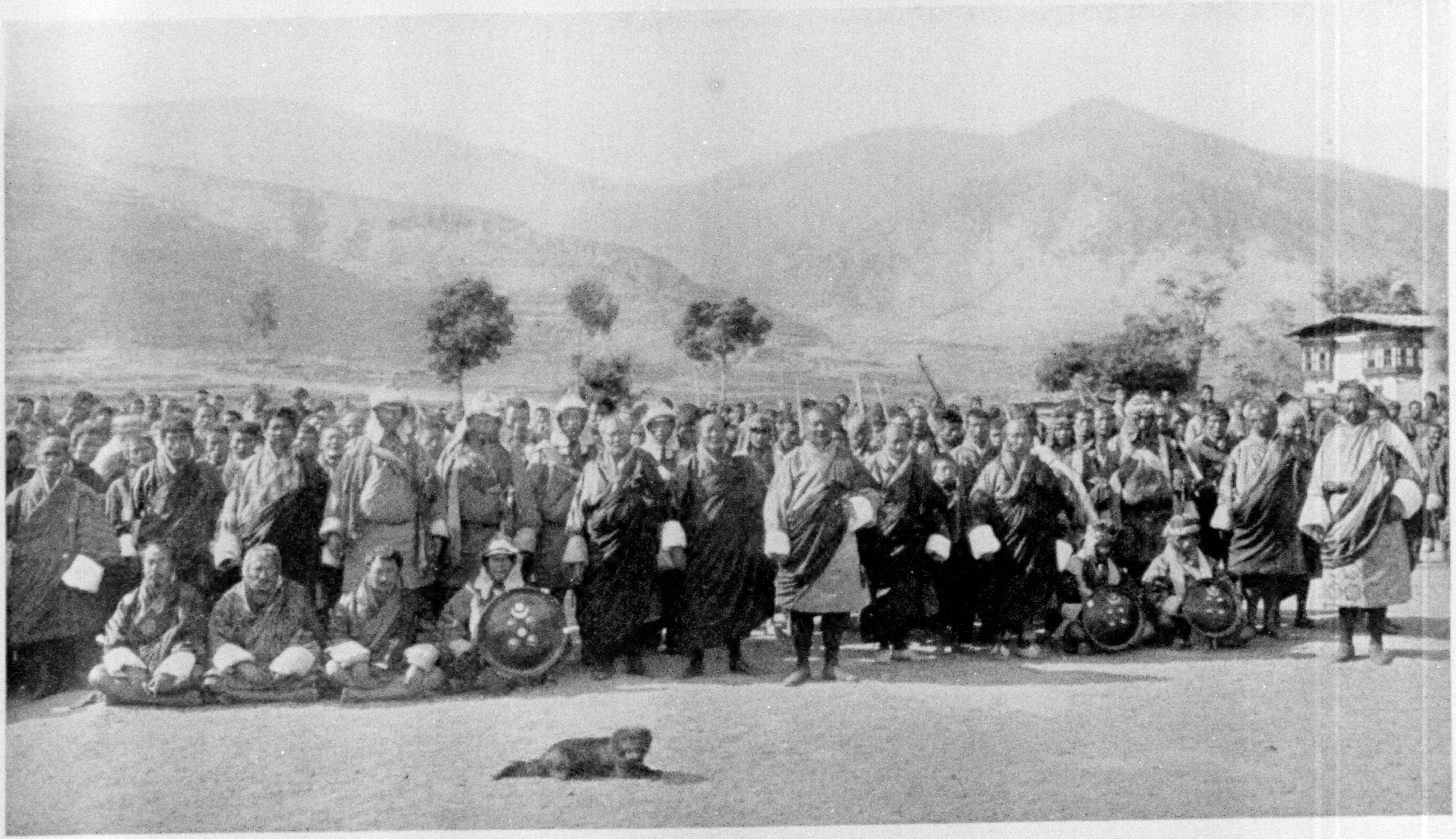


BHUTAN ORDERLIES FOLLOWING THEIR OFFICIALS TO AUTHOR'S CAMP, DRESSED IN BRIGHTLY DYED TUSSORE SILK GARMENTS, WEARING STEEL HELMETS, AND EACH CARRYING A SILVER-SHEATHED SWORD



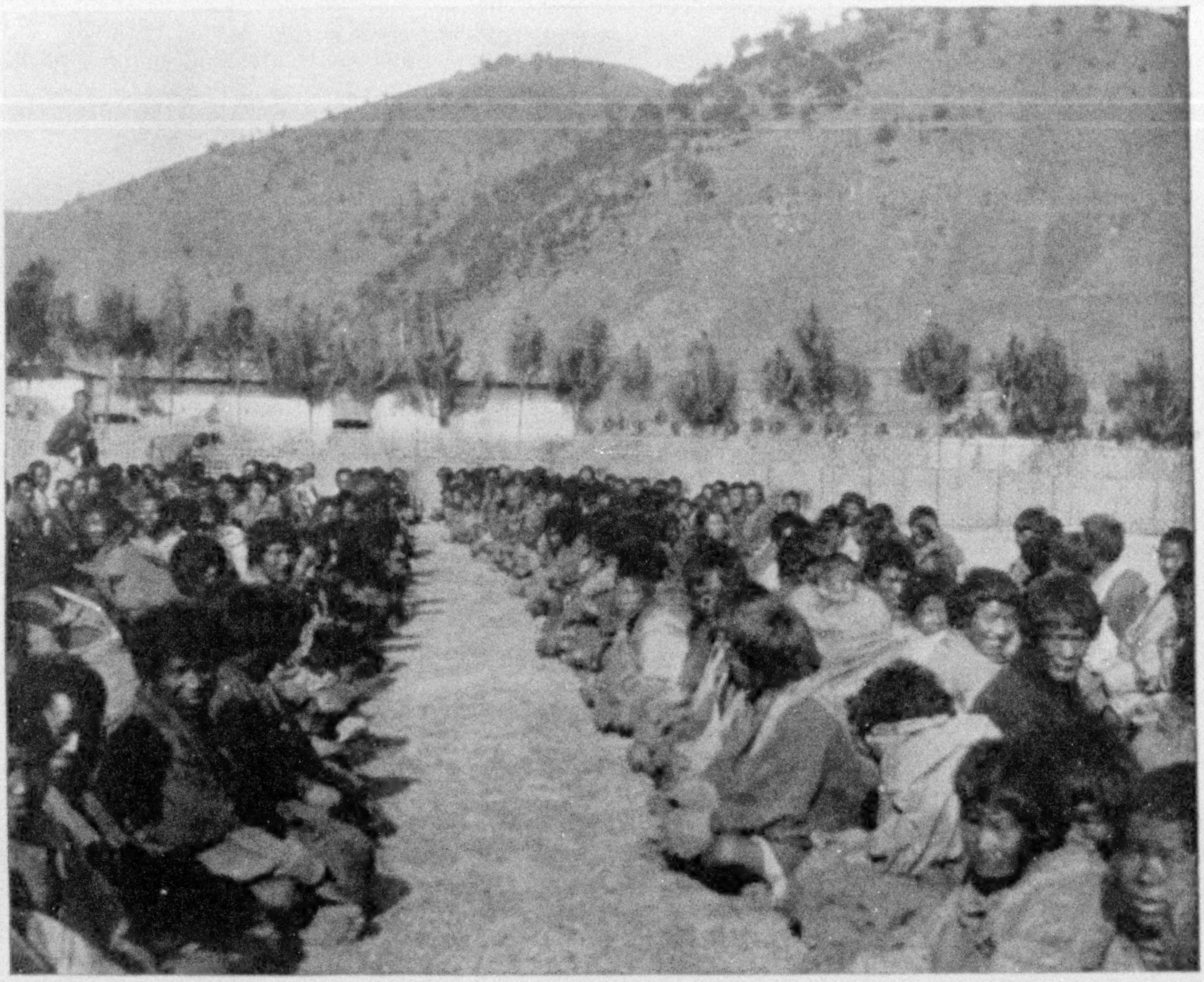
SIR UGYEN AND HIS COUNCILORS

The council were in bright-colored silk robes, each with his crimson shawl of office; standard-bearers in gaily striped bokus; fighting men with swords, leather shields, and brightly polished steel helmets ornamented with colors; archers with bows and arrows; gun-carriers with all kinds of strange weapons, and many others, all quaintly and picturesquely dressed. From left to right: Poonakha Jongpen, Thimbu Jongpen, Sir Ugyen, Zung Donyer, Deb Zimpon, and, standing, Ugen Dorji.



GROUP TAKEN IN AUTHOR'S CAMP AT POONAKHA

The Tongsa and officials were particularly pleased with the magic lantern shown them privately and asked for a second display in the fort. We obliged them a few evenings later to a vast crowd—I should think of at least a thousand people—who, from the remarks I at times overheard, took a keen and intelligent interest in the performance. In addition to slides made from my Tibetan pictures, I had several of India and Europe, and we wetted the screen thoroughly to enable the audience on both sides to see. The four figures in the center, from left to right, are Poonakha Jongpen, Thimbu Jongpen, Sir Ugyen, Paro Penlop and his son, Deb Zimpon, and on the right Ugen Dorji.



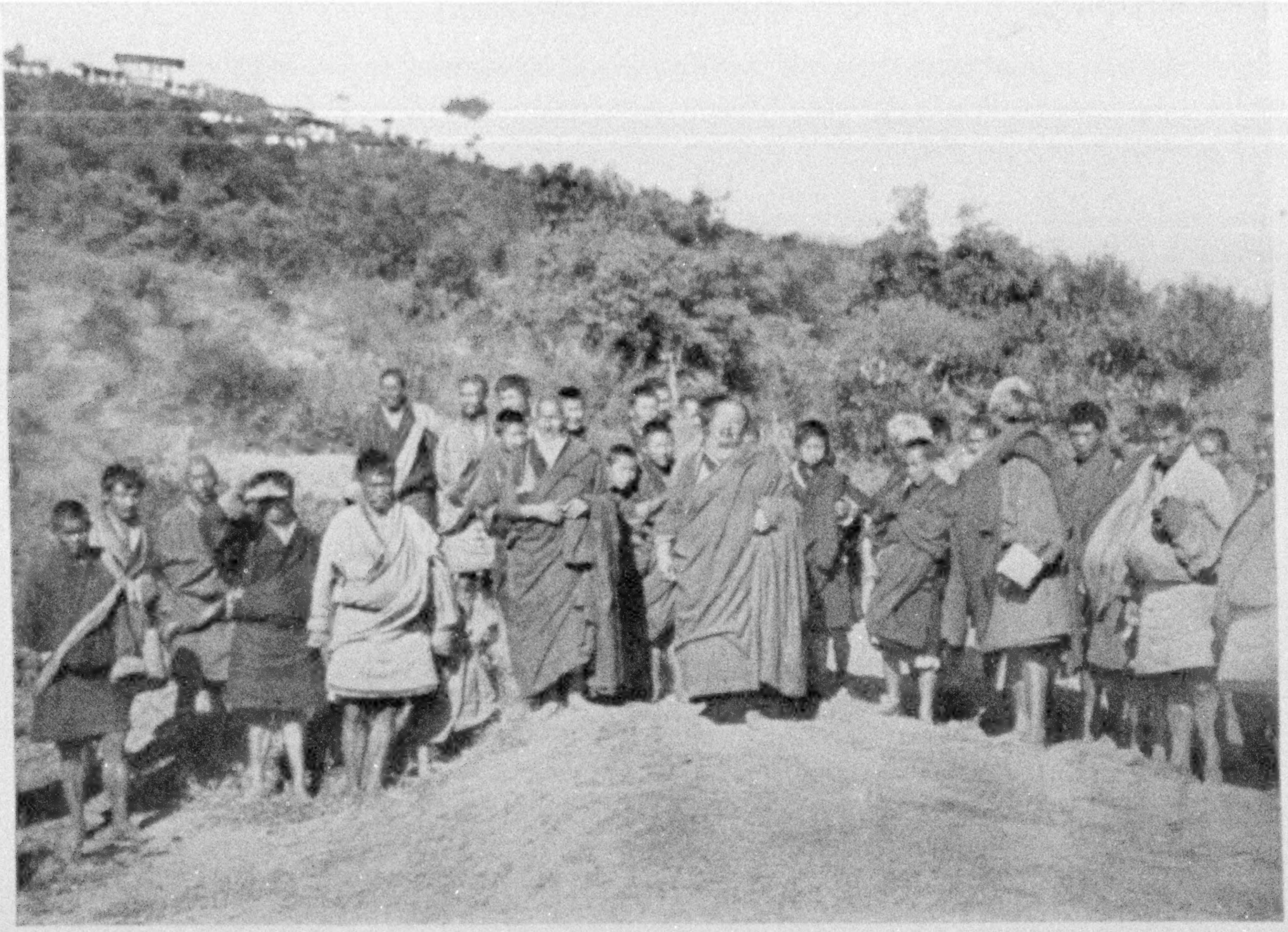
FEEDING THE PEOPLE AT POONAKHA, OUTSIDE MY CAMP, AFTER THE DURBAR

We distributed doles to the poor in the neighborhood. More than a thousand turned up, a most quiet and orderly crowd, who waited with the greatest patience each for his turn. I had them marshaled in double lines, sitting on the ground, and Rennick and Campbell passed down the lines, giving each person a four-anna bit. Even the babies were made to hold out their hands, though the parents speedily seized the coin.

every expression of friendliness by the lama, a brother of the late Shabdung Rimpoche, who invited me to look at everything I wanted and broke open seals on boxes and doors in order to allow me to examine his treasures. I fancy this is the first time any European had been allowed to do such a thing, and the treasures were worth seeing, especially the old embroidered banners. Even the late Shabdung's dwelling was opened and I was allowed to enter his private rooms, the greatest honor they could confer on me.

All we required was provided and everything done for our comfort, and the lama (see page 415) was quite hurt that we were unable to stay longer and accept more of his hospitality.

The ladies who had entertained me at Ta-lo later came to Poonakha and paid me a visit. After listening to the gramophone, with which they were much pleased, they went away, taking with them some silks for themselves and toys for their children. With them came the head of Ta-lo, the Tango Lama, a man about 40, and his younger brother, Ninser Talku, about 11 years old. In the evening the lama came back to dine with us, accompanied by the Thimbu Jongpen, but I do not know that on this occasion the dinner itself was an actual success, as the lama was not allowed to eat fowl or mutton, our principal stand-bys, and the Thimbu excused his want of appetite by saying he had already dined.



THE TA-LO LAMA IN CENTER WITH A LARGE GOITER

This disease is very prevalent throughout the Himalayas, and is believed to be caused by drinking snow water

SIMPLE AND KINDLY PEOPLE

I have always found the Bhutanese, as well as the Sikkim people, very appreciative of English food, and as they are Buddhists, with no question of caste, they consider it an honor to be asked to meals, and are most anxious to return any hospitality they receive, in marked contrast to the natives of India, who are defiled and outcasted by such intercourse with strangers. It is a great factor in helping forward friendly relations, and although, out of politeness, they never refuse to taste wine, nearly all the officials are extremely abstemious.

At Poonakha the others jocularly remarked that the Zung Donyer, being so much older, was a seasoned vessel and must drink for the rest of them, and often passed the half-emptied glasses on to him to finish; but at the same time they kept a strict watch to see that the strange spirits whose strength they were unaware of should not overcome him.

After dinner I showed the Tango Lama a stereoscope, with views of Europe, and he so enjoyed it that I gave it to him when he called to take leave. He asked me if I had brought with me any toy animals, mentioning in particular an elephant, as he wanted them to place before a new shrine they were making at Tango. By a great piece of luck I had a toy elephant that waved its trunk and grunted; also a donkey that gravely wagged its head, and a goat that on pressure emitted some weird sounds. He was greatly delighted with them and bore them off in triumph, but whether to assist his worship or amuse his children I do not know.

Next day, on leaving, he asked if I had a model of a cow, but that, unfortunately, was not forthcoming. It was an excellent idea, bringing models of animals and simple mechanical toys among the presents, and they are most popular as gifts, a jumping rabbit being in great demand. It shows the simple nature of

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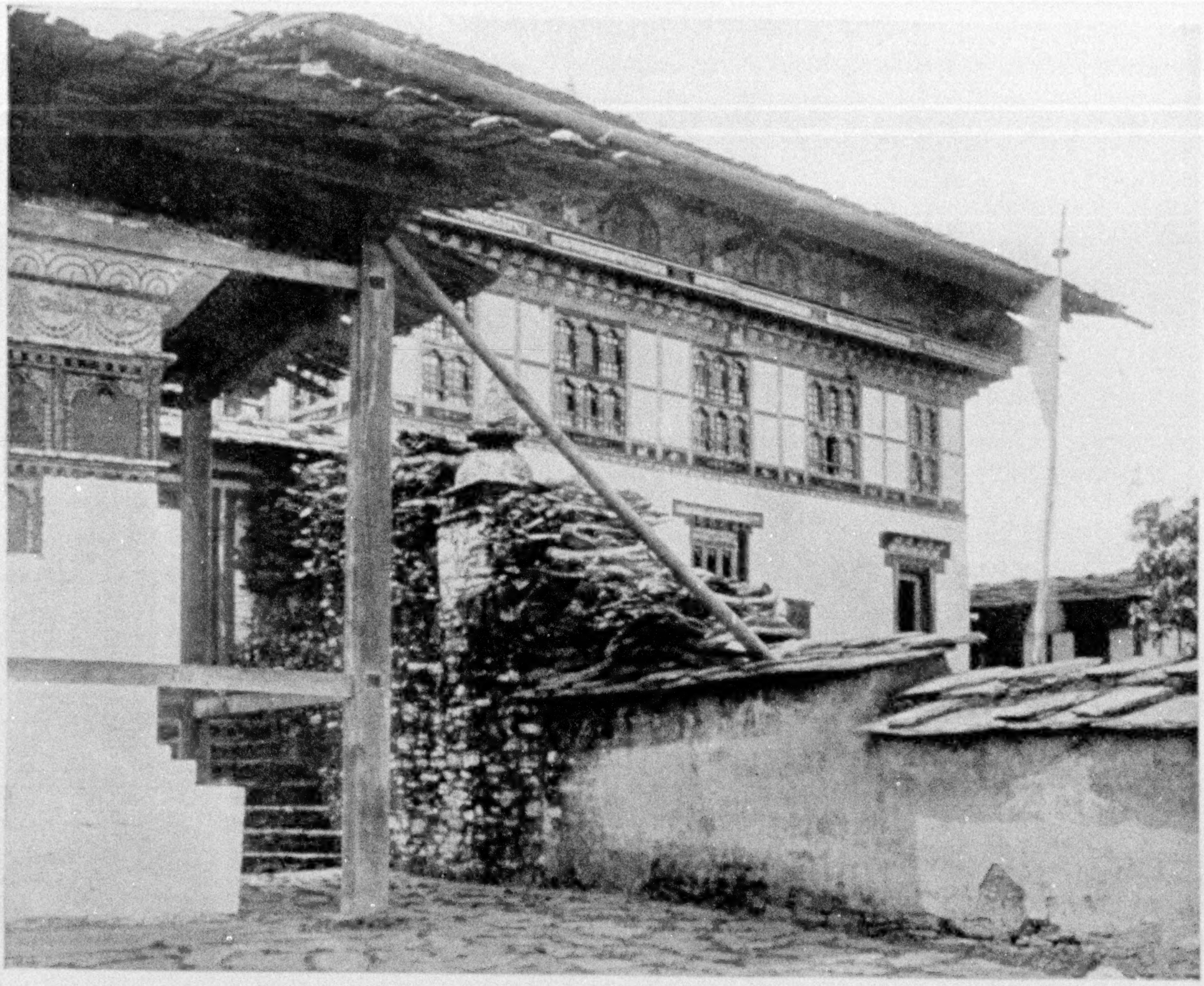


THE LATE SHABDUNG RIMPOCHE'S HOUSE AT TA-LO MONASTERY

The frescoes and carvings under the eaves are good and the whole of the decoration is well carried out. The bells are cast in Bhutan (see page 428)

the people, that they should be interested so easily.

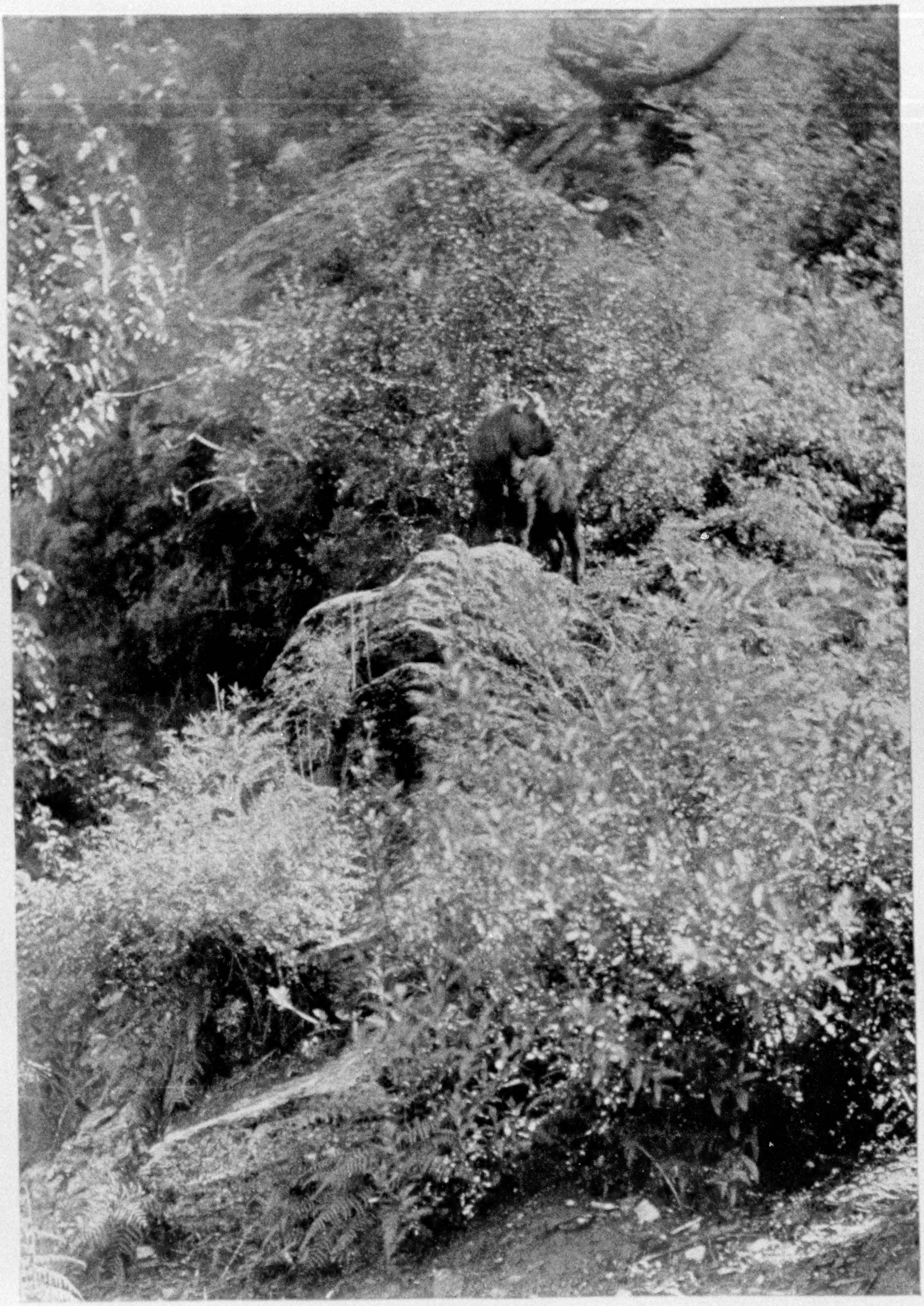
While at Poonakha I procured a specimen of the takin (*Budorcus taxicolor whitei*), a very rare animal, and I succeeded in bringing a live specimen to England, which is now in the Zoölogical Gardens, London (see page 417).

A VISIT TO A BHUTAN HOME

With the conclusion of the Durbar my official duties came to an end, but the Tongsa (now Sir Ugyen Wang-chuk) begged me to accompany him to his official residence, the castle at Tongsa, and thence to his private residence and castle at Byagha; so my party became the private guests of Sir Ugyen. We were entertained by the most charming and thoughtful of hosts, everything that could conduce to our comfort being done—camps pitched, roads mended, even houses built for us to live in; in fact, no host could have done more and few so much.

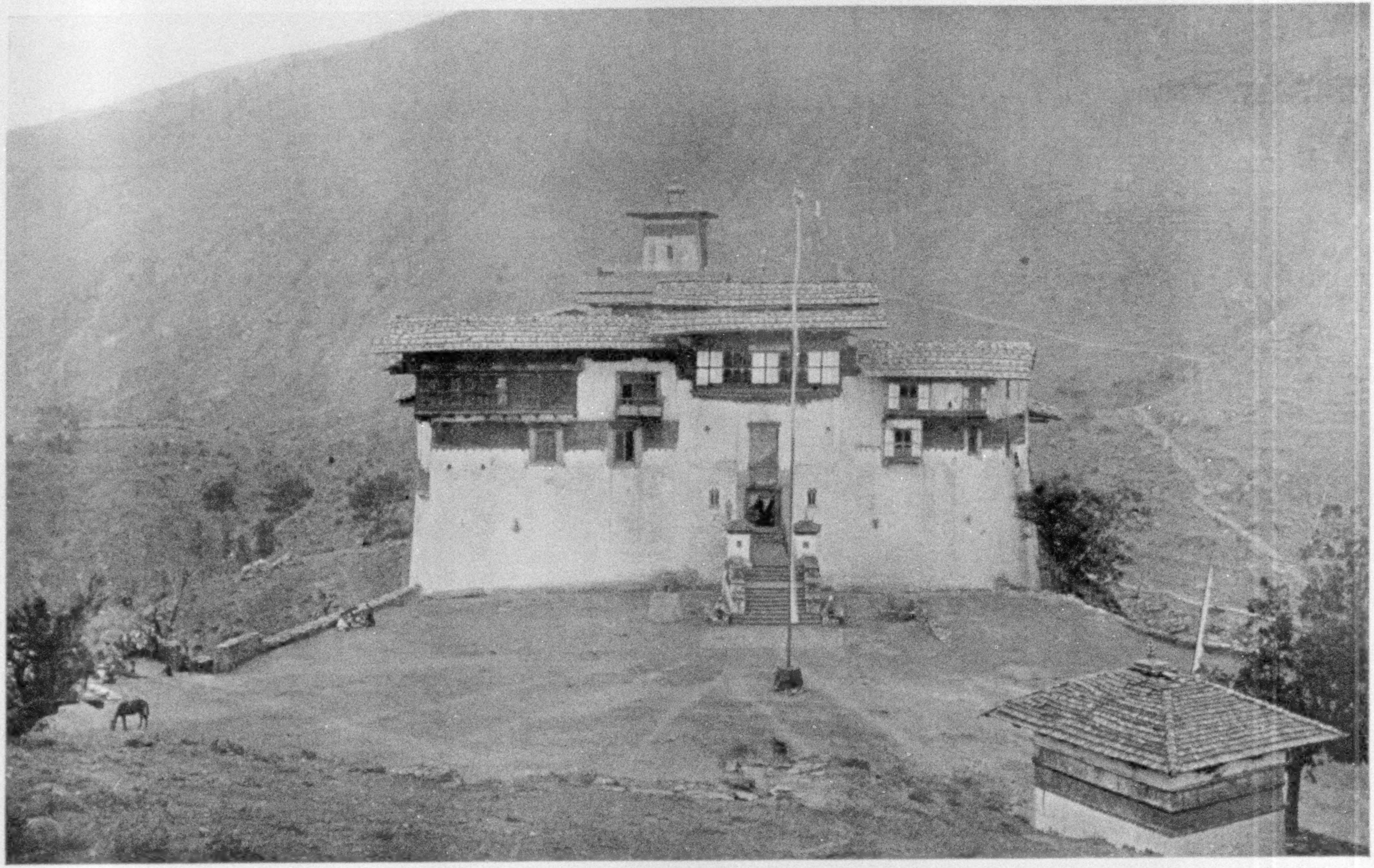
After four days' marching, passing en route Angduphodong Jong, we reached Tongsa. On nearing the fort a bevy of singing girls met us below the almost perpendicular approach and sang us into the fort. I was obliged to ride up steep zigzag steps, although I would have much preferred to walk; but it would not have been considered etiquette for me to arrive on foot (see page 435).

Sir Ugyen met us in camp with the information that the castle lamas were all ready and eager to finish the dances that on our previous visit had been stopped by rain; so, after a hasty lunch, I went on to the castle. The dance went off very well, with the dancers in gorgeous dresses of every imaginable color, to the accompaniment of weird tom-toms and huge trumpets, flutes, and cymbals,



PHOTOGRAPH OF THE RARE TAKIN, OR BUDORCAS TAXICOLOR WHITEI, TAKEN IN CHUMBI (SEE PAGE 416)

He was being brought to India, but, unfortunately, the next day he was found dead; it is supposed poisoned by eating aconite. Later I succeeded in securing another specimen, which is now in the Zoölogical Garden, London.



ANGDUPHODONG JONG, SITUATED ABOUT TEN MILES BELOW POONAKHA, ON THE MO-CHHU (SEE PAGES 438 AND 443) which produce a strange and unusual, but rather fascinating, music of their own. But the most interesting objects to me were the masks, which, instead of being carved out of wood, as in Sikkim, were molded from a *papier-mâché* of cloth and clay, and very well molded they were—the heads of the various animals quite recognizable and many with great character (see pages 439 and 444).

The fort is composed of a wonderful collection of buildings. Within its numerous courtyards, temples, and dwellings it contains a population of perhaps 3,000 lamas and laymen and could hold 6,000 (see pages 420-423, 442, and 443).

A distinctive feature which is most striking in Bhutanese architecture is that all the walls have a distinct camber, and that the windows are of peculiar form, with the sides sloping inwards. From whence did this form of architecture come? What is its origin? Did it come into this remote and inaccessible region in the Himalayas through the Akkadians, Babylonians, Assyrians, and Persians from Egypt? Or was the center from which the art spread founded by a race which had its habitat somewhere in Asia? An interesting question, which can only be touched on here, but one which would be worth some systematic study (pages 432 and 433).

BLESSING THE RICE FIELDS

Early one morning the sound of a sweet-toned gong warned us that the spring ceremony of blessing the rice fields was about to begin (see page 420).

A long and picturesque procession of men and women, led by the Donyer, came winding down the hillside until the first rice field, into which water had been running all the day before, was reached. The field below was still dry, and turning in there they all sat down and had some refreshment. Suddenly the men sprang up, throwing off their outer garments; this was the signal for the women to rush to the inundated field and to commence throwing clods of earth and splashes of muddy water on the men below as they tried to climb up.

Then followed a wild and mad, though always good-natured, struggle between the men and the women in the water, the men doing their utmost to take possession of the watery field, the women equally determined to keep them out.

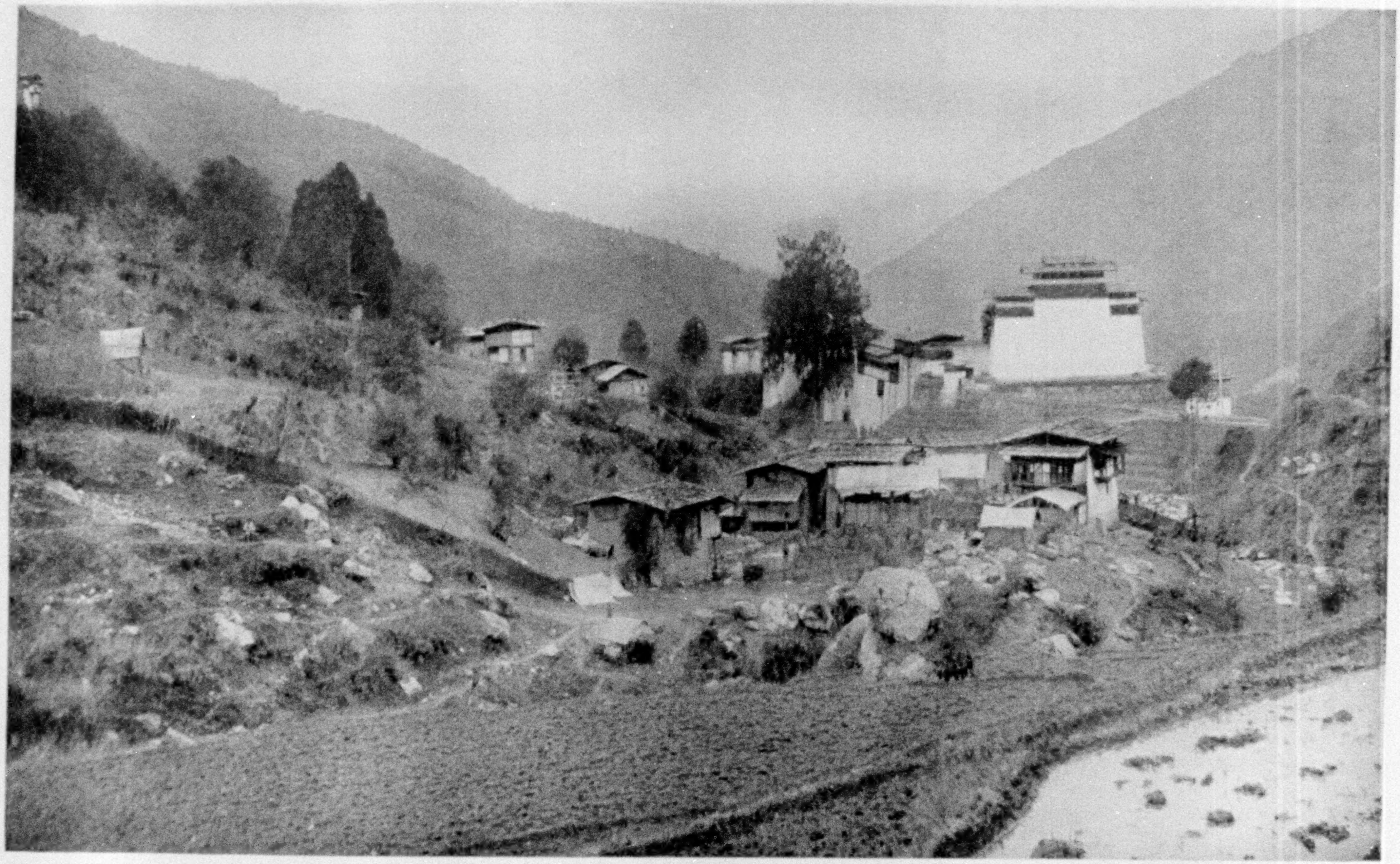
The Donyer, the leader of the men, suffered severely, though the courtesies of war were strictly observed, and if one of the assailants fell his opponents helped him up and gave him a breathing space to recover before a further onslaught was made. But gradually the women drove the men slowly down the whole length of the field until the last stand was made by a very stout and powerful official, who, clinging to an overhanging rock, with his back to his foes, used his feet to scoup up such quantities of mud and water that no one was able to come near him.

However, all the other men having been driven off, he and the Donyer were allowed at last to crawl up on the path and the combat for the year was over. This was looked on as a very propitious ending, as the victory of the women portends, during the coming season, fertility of the soil and increase among the flocks and herds; so they dispersed to their various homes rejoicing.

PRAYER-WHEELS DRIVEN BY WATER

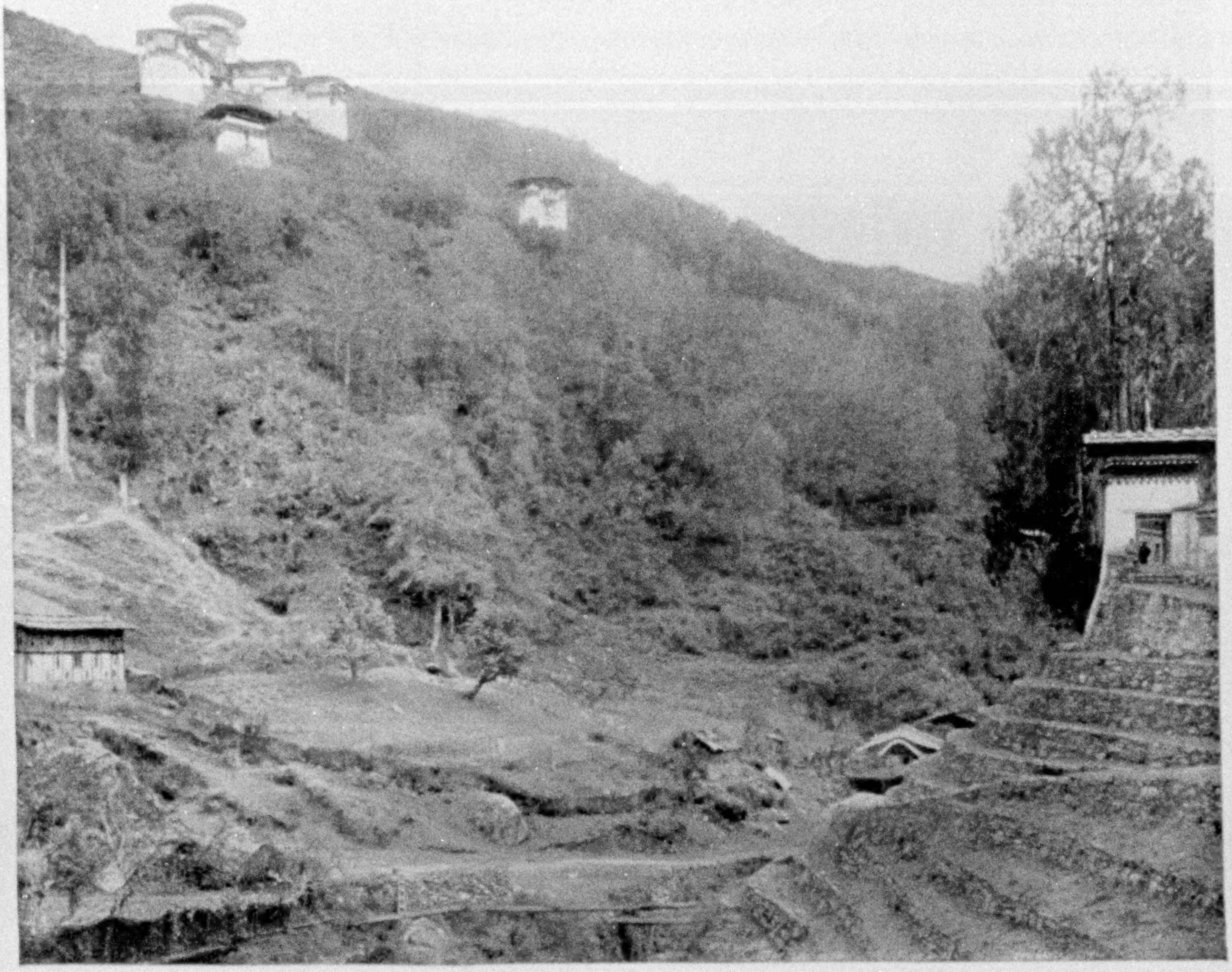
Below the eastern wall of Tonsa in the ravine is the building containing the prayer-wheels, worked by water, from which the palace took its original name of Chu-knor-rab-tsi. In it are two sets of wheels, each axle containing three manis, or cylinders, containing prayers, one above the other, the smallest at the top. They had evidently not been used for some time, so the next day, having nothing better to do, we assisted in putting them in order by clearing out the waterways, which had been blocked with stones and rubbish, and hope it may be placed to our credit as a work of merit.

In Bhutan we often saw these water-driven prayer-wheels, most of them in a state of picturesque decay and only a few still in working order. For the benefit of my readers who are unacquainted with this practice, the following is a short description: A prayer-wheel consists of a hollow cylinder filled with written or printed prayers and fixed to a perpendicular shaft of wood, to the lower end of which horizontal flappers are attached,



GENERAL VIEW OF TONGSA JONG

The flooded rice field on the right-hand corner is the scene of the ceremony of blessing the rice, where the sham fight between the men and women took place (see text, page 419)



ANOTHER VIEW OF TONGSA JONG, SHOWING OUTLYING FORTS, TERRACES, AND IRRIGATING PIPES

against which water is directed from a chute; the end is shod with iron and revolves in an iron socket driven by the force of the stream. With each revolution the prayers are believed to be prayed for the benefit of the builder of that particular wheel and count so much to his credit.

They are very easily kept in order; but probably because only construction and not preservation is a work of merit in the Buddhist religion, no one seems to take the trouble to clear out the watercourses or to mend a broken flapper, and consequently most of them were at a standstill.

It is a delightfully easy method of praying, and some enormous wheels have been erected. One at Lamteng, in the Lachen Valley in Sikkim, contains no less than four tons of printed paper, and measures about 9 feet in height by 4½ feet in diameter; but these very large ones are seldom worked by water-power, and generally have a crank on the lever end of the shaft, which any one anxious to pray has only to turn, while a bell sounding automatically at each revolution records the number of prayers repeated.

THE KING'S PRIVATE HOME

We stayed here a few days and then went on to Byagha. This visit to Byagha, which lasted 12 days, was really the most enjoyable part of the expedition, for we were received as honored guests by Sir Ugyen in his private capacity; and interesting and imposing as the ceremonies had been at Poonakha, these few days at Byagha gave us a much deeper insight into the life and customs of the Bhutanese, as our intercourse with our host was quite free and untrammeled.

An easy descent brought us to an open-

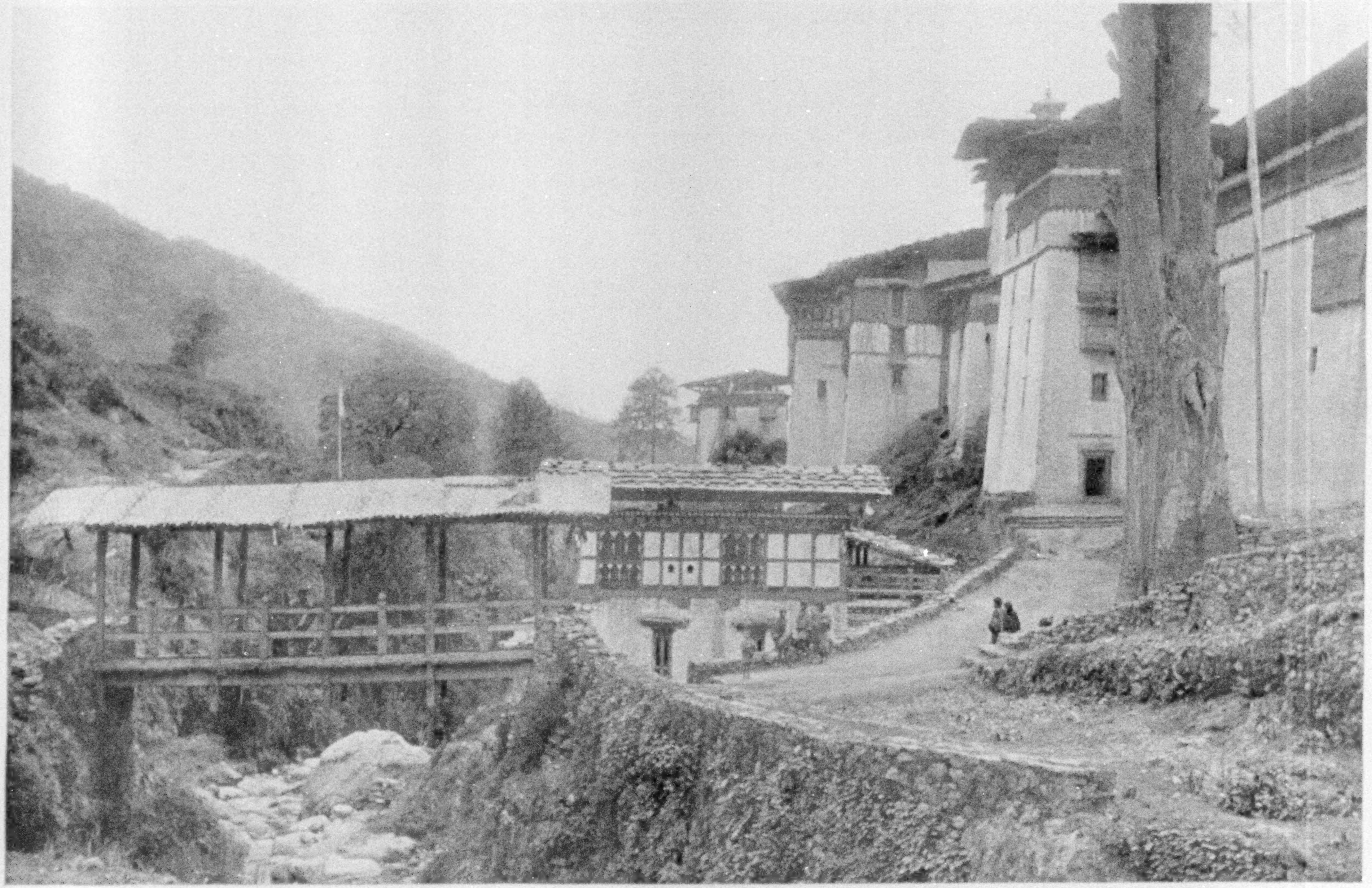


Photo by John Claude White

"Below the eastern wall of Tonsa in the ravine is the building containing the prayer-wheels, worked by water. In it are two sets of wheels, each axle containing three manis, or cylinders, containing prayers, one above the other, the smallest at the top. . . . In Bhutan we often saw these water-driven prayer-wheels, most of them in a state of picturesque decay and only a few still in working order" (see text, pages 419-421)

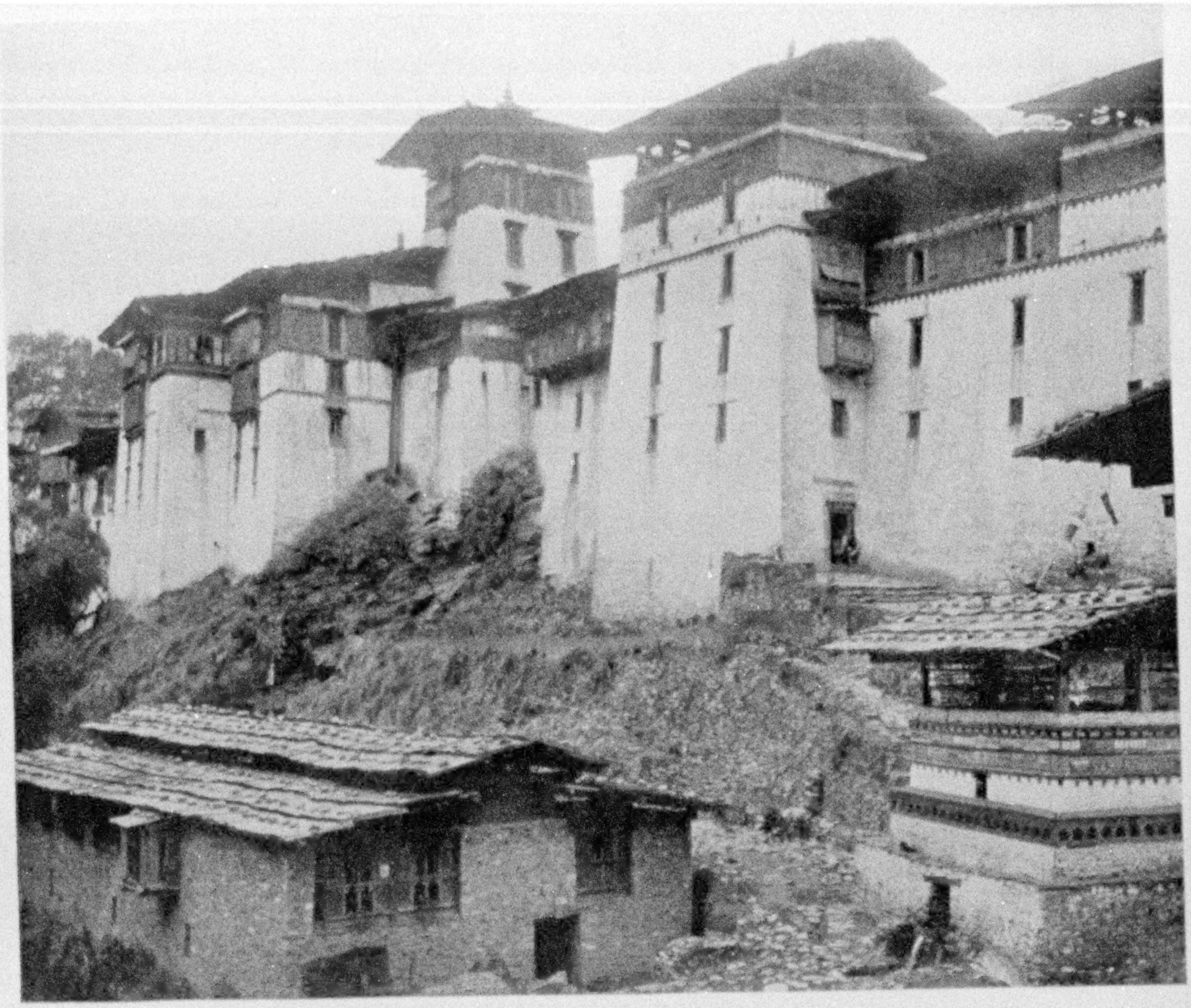


Photo by John Claude White

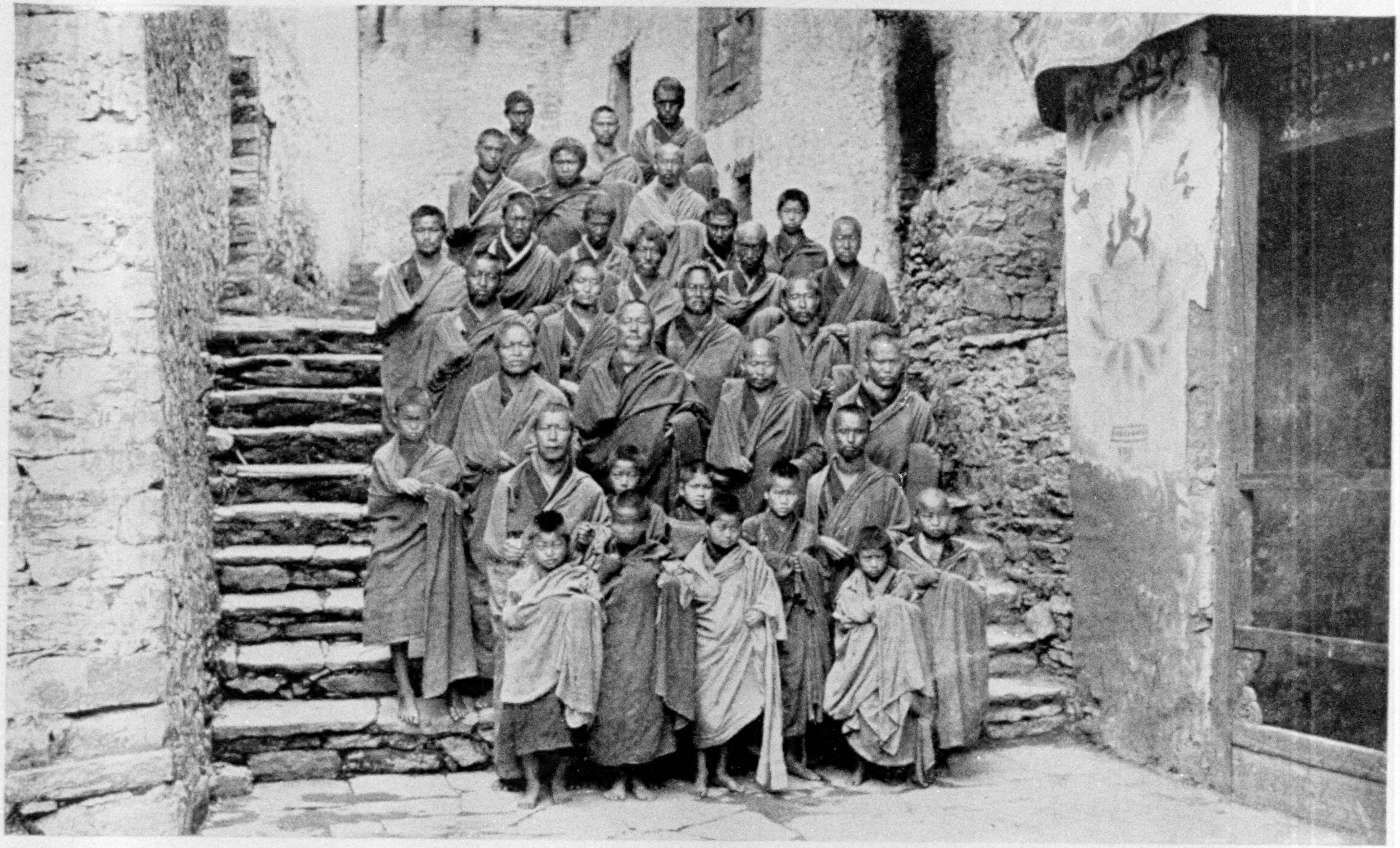
ONE OF THE GATES TO TONGSA JONG (SEE PAGES 432 AND 433)

"It is a delightfully easy method of praying, and some enormous wheels have been erected. One at Lamteng, in the Lachen Valley in Sikkim, contains no less than four tons of printed paper, and measures about 9 feet in height by 4½ feet in diameter" (see text, pages 419-421).

ing in the pine forest, from whence we looked down on the broad vale of Byagha, through which a river flowed tranquilly. On the right bank was a large house and chapel, surrounded by trees just bursting into leaf, the home of Sir Ugyen's sister, and close by the site of the old house in which he was born. On a bluff on the central ridge, some 500 feet up, was the castle, entirely rebuilt, though on a smaller scale, after the total destruction of the old one in 1897; while, to crown all, where the ridge widened out into broad glades, edged with pine forests, was the equally new summer house of our host. He had terraced and turfed the slope above the castle (see page 426).

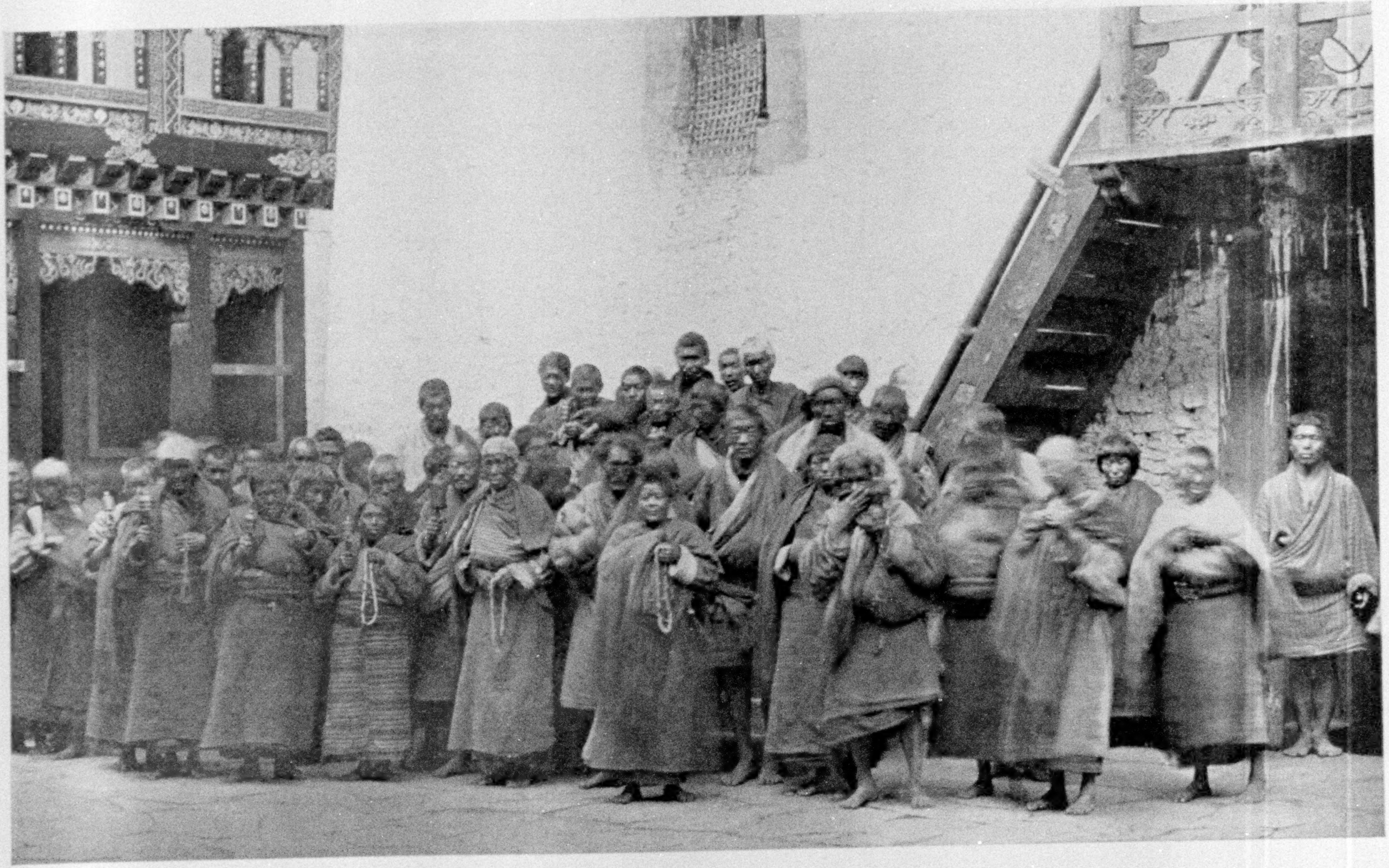
Nothing could have been more picturesque than our camping-ground at Byagha. The view everywhere, both up and down the valley, was lovely. Dr. Griffith 70 years previously had written: "The country was very beautiful, particularly in the higher elevations. And at this season, to add to the beauty, primulas, in flower in myriads, clothed whole glades in delicate violet, while above rhododendrons flamed in gorgeous scarlet." He adds: "We saw scarcely any villages, and but very little cultivation."

In direct contradiction to this, I noticed that whole hillsides were being cultivated up to at least 11,000 feet, and I was so struck by the difference that I



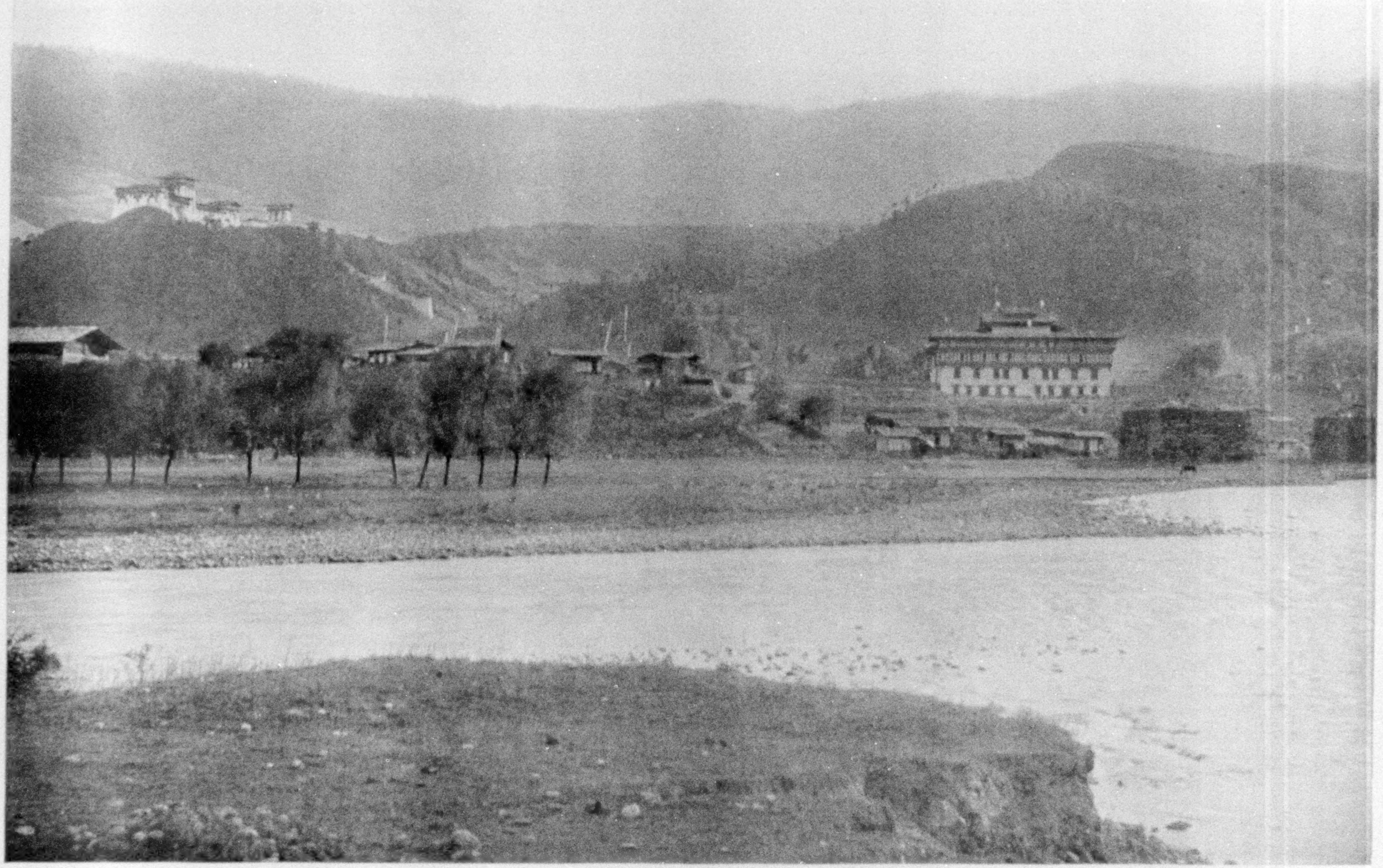
GROUP OF LAMAS AND NOVITIATES AT TONGSA

There is a curious mixture of type among them, due probably to the prevalence of raids into the plains in earlier days and to the fact that they brought back captives both men and women. Note two cases of goiter

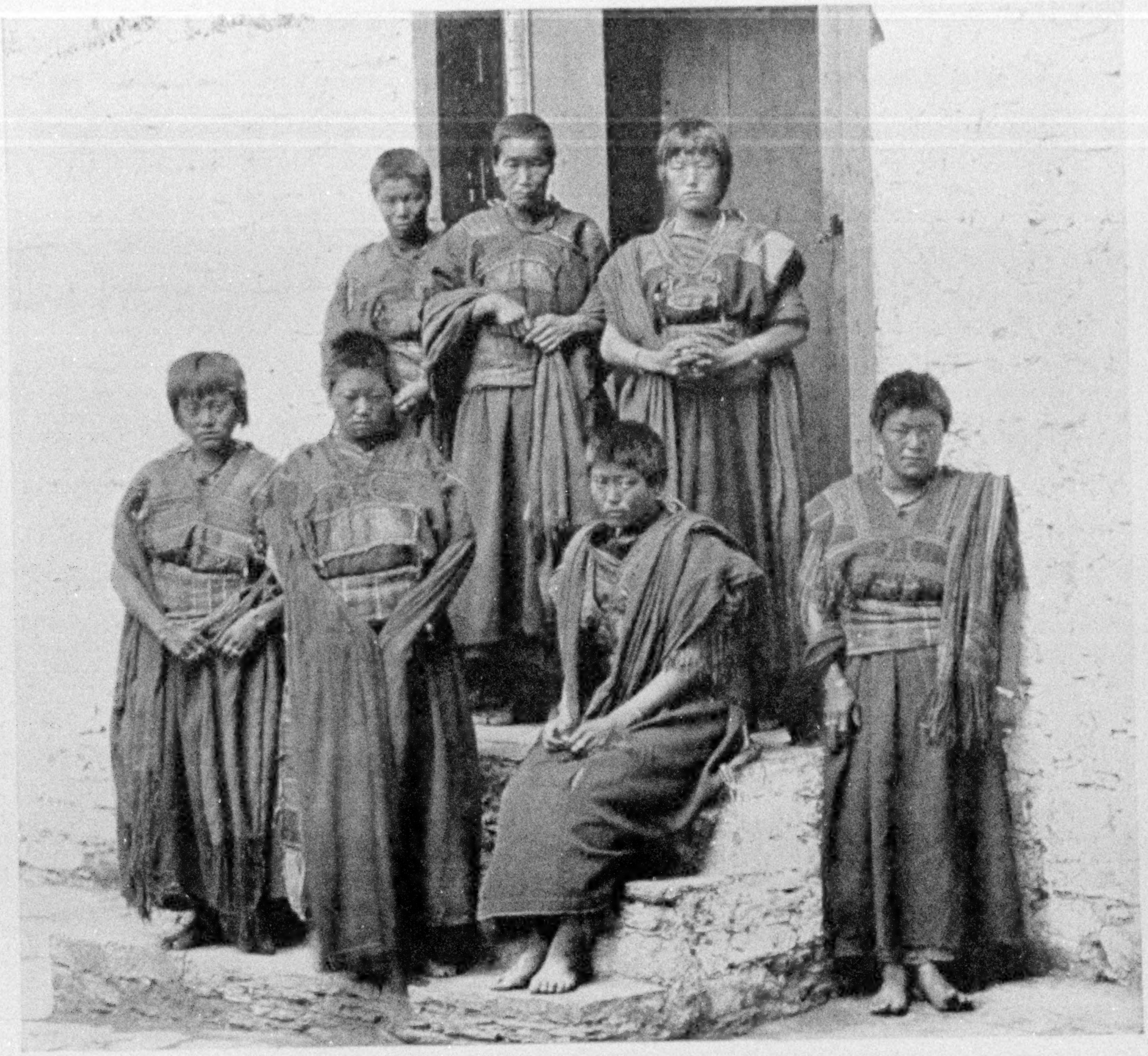


GROUP OF WOMEN AT TONGSA JONG

Notice that they are nearly all either telling their beads or turning prayer-wheels, sometimes both. Note curtain of window



SIR UGYEN'S SISTER'S HOUSE AT BYAGHA. A GOOD SPECIMEN OF A PRIVATE HOUSE. THEY ARE VERY LARGE AND ACCOMMODATE AN ENORMOUS FOLLOWING (SEE PAGE 423)



SEWING MAIDS IN OLD COSTUMES, NOW DISCARDED

made inquiries, and found that as recently as 30 years ago, when Sir Ugyen left the valley, a boy of 12, there was nothing but jungle either here or on the slopes opposite. The land had only been brought into cultivation since the internecine quarrels had ceased some 18 years ago. So much for stability of government; but even now poverty reigns, and the valley is only prosperous in comparison with more unlucky ones.

As soon as we had settled down, Sir Ugyen's sister, his two daughters, and a daughter of the Thimbu Jongpen came to add their welcome. The younger ones were rather pretty, unaffected and merry girls, while the sister, although a grandmother, was full of good nature and showed traces of good looks. They all wore their quaint and distinctive dress, which consists of a long piece of Bhutanese cloth, woven in colored stripes, draped round the figure, and fastened on the shoulders and confined at the waist by a band of brighter Bhutanese cloth. They also wore necklaces of large, rough beads of coral, turquoise, and amber, and occasionally gold filigree beads and many bangles of gold and silver (page 434). Their hair was left unornamented and either cut short or worn in two long plaits. The elder daughter brought her little son, to whom I gave a bottle of sweets, which pleased him just as much as it would a little Western boy, and his mother told me later that he ever after loved me for my gift.

Very soon after our arrival Sir Ugyen took me all over his house. On the east front, occupying the whole width of the

XUM

building, was a long, well-ventilated factory, where many girls were busy weaving silk and cotton fabrics, chiefly the former. The silk was in the main tussar, obtained from Assam and the northern hills. It was altogether a very charming and home-like dwelling, and evidently managed by an excellent and capable housewife in his eldest daughter, who lives with him and superintends his household (see pages 437 and 446).

On one occasion we breakfasted with him, and were offered several small dishes cooked in Chinese fashion in small cups, with the accompaniment of boiled rice, while in the center of the table was a large dish of various kinds of meat. After breakfast I had to go and witness an archery contest. The distance between the butts was at least 150 yards, and the shooting was much better than what we saw at Poonakha and what Dr. Griffiths writes of. There were two teams, captained respectively by Ugyen Kazi and the Tongsa Donyer, and the former won.

SIR UGYEN'S PERSONALITY

Sir Ugyen took a good deal of trouble to find some books for me, from which I have gathered a fuller account of early Bhutanese history than we have had hitherto.

His own story is a somewhat pathetic one. As a young man he married an exceedingly lovely girl, to whom he was devotedly attached, but after the birth of their second daughter she died very suddenly from some unknown cause. The shock was a terrible one to Sir Ugyen. He became seriously ill, and on his recovery withdrew from all gaiety and found solace in reading and studying the history and legends of his country. As some of his followers described him, he was more than a lama. Sir Ugyen is the only Bhutanese I have come across who takes a real and intelligent interest in general subjects, both foreign and domestic, and he neither drinks nor indulges in other vices. He made a large collection of books, but unfortunately many of them were destroyed when the Dechen-phodang, near Tashi-cho-jong, was burnt down; while the earthquake of 1897, which destroyed all the principal buildings in Bhutan, ruined other archives.

THE LIFE OF THE WOMEN

We were also entertained by the Tongsa's sister and spent several days in an encampment near her house. We here saw what capable housewives the Bhutan ladies are. Everything was done very systematically. In the morning the provisions for the day were given out—no easy task, with some hundreds of retainers to feed—and the store-rooms relocked, orders issued, and tasks appointed in spinning, weaving, etc., to be carried out by the large household of women, and it was interesting to see the deference in which these dames are held.

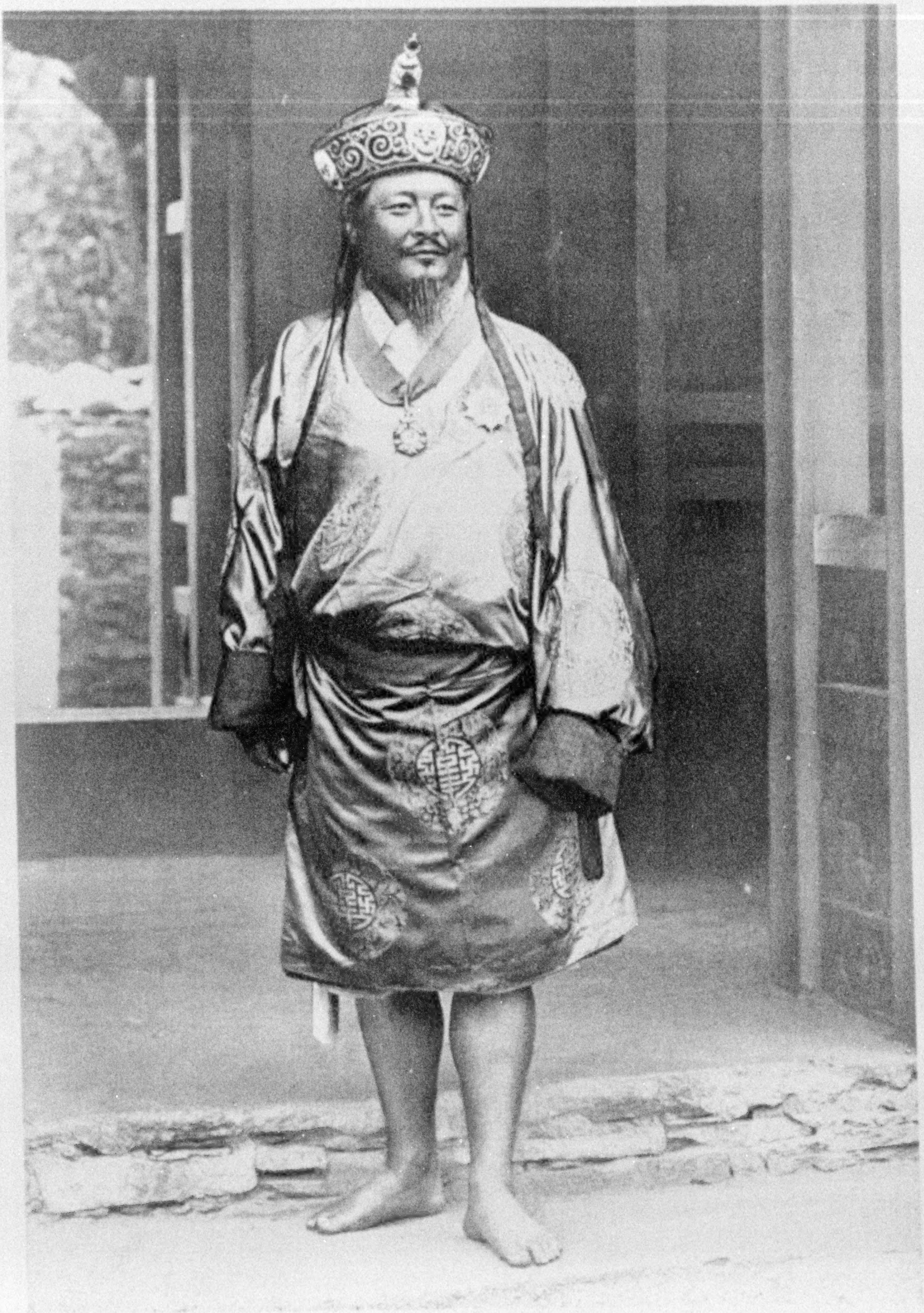
We were taken to see the Guru Lhakung Monastery and to lunch at a country house; were shown all the industries of weaving in cotton, wool, and silk; the process of casting of metals, chiefly bells and images; the making of swords and gold- and silversmith's work. Many pieces turned out by the latter were of exquisite design and finish. It was all most interesting and instructive.

THE MEN ARE EXCELLENT ARTISANS

The Bhutanese excel in casting bells, and I have seen some excellent specimens with very fine tones. The composition used for the best bells contains a good deal of silver, but they never make them of any great size, the largest I have seen being probably 24 inches in diameter and of about an equal height.

In iron-work they are also good artificers, and many of their sword-blades are of excellent manufacture and finish, and are still made from the charcoal iron. The polish they put on them is wonderful, and the blades almost look as though they had been silvered.

Their swords are very handsome weapons, with finely finished blades, elaborately wrought, silver-handled, inlaid with turquoise and coral, and silver scabbards with gold-washed patterns, attached to handsome leather belts with brightly colored silk cords and tassels. Their daggers are also very fine, many of them with triangular blades and fluted sides,



THE KING OF BHUTAN, SIR UGYEN WANG-CHUK

He is shown standing in the doorway of his residence, wearing the insignia of the Order of the Indian Empire, which was bestowed on him by the British Government before his elevation to the throne. Photo by John Claude White.

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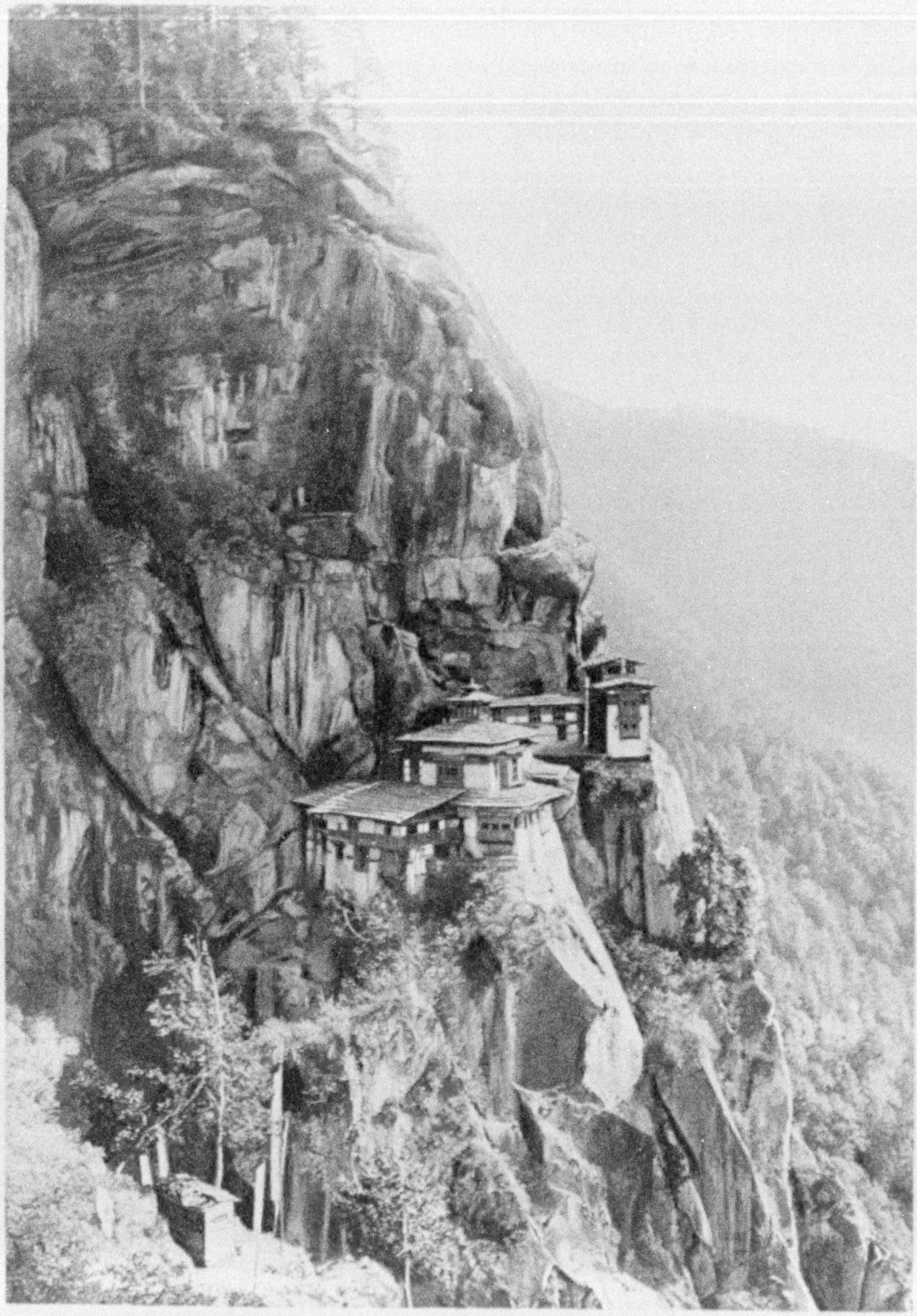
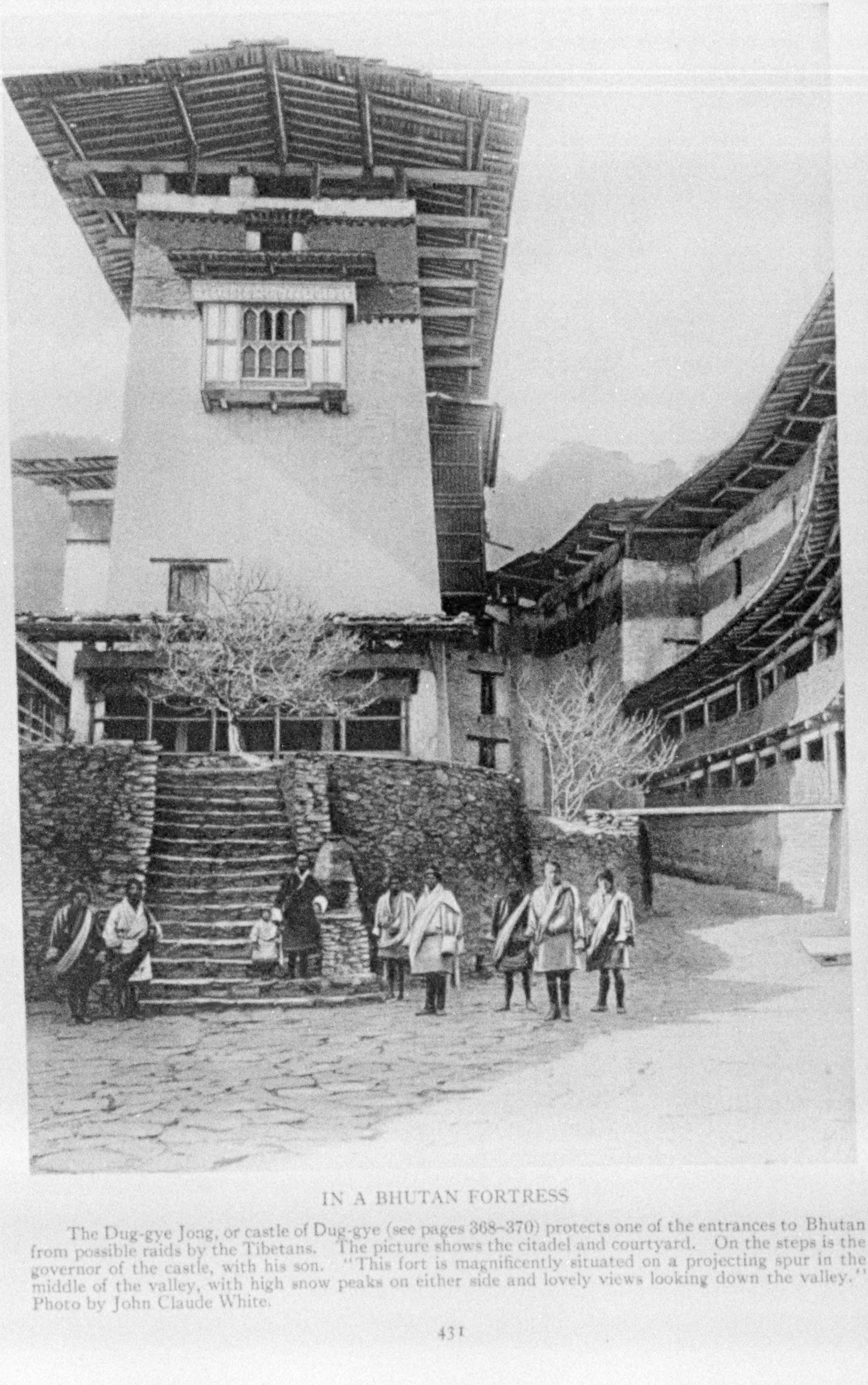


A CLIFF-SIDE MONASTERY

This group of buildings forms part of the Paro-ta-tsang monastery, which is perched on the face of a perpendicular cliff thousands of feet above sea-level. Note the prayer flags and shrine in the road in the foreground of the picture. From this point the road descends into an almost impassable gorge by steps cut out of the solid rock where the smallest slip would mean being precipitated down a couple of thousand feet. (See also pages 374-377.) Photo by John Claude White.



IN A BHUTAN FORTRESS

The Dug-gye Jong, or castle of Dug-gye (see pages 368-370) protects one of the entrances to Bhutan from possible raids by the Tibetans. The picture shows the citadel and courtyard. On the steps is the governor of the castle, with his son. "This fort is magnificently situated on a projecting spur in the middle of the valley, with high snow peaks on either side and lovely views looking down the valley." Photo by John Claude White.

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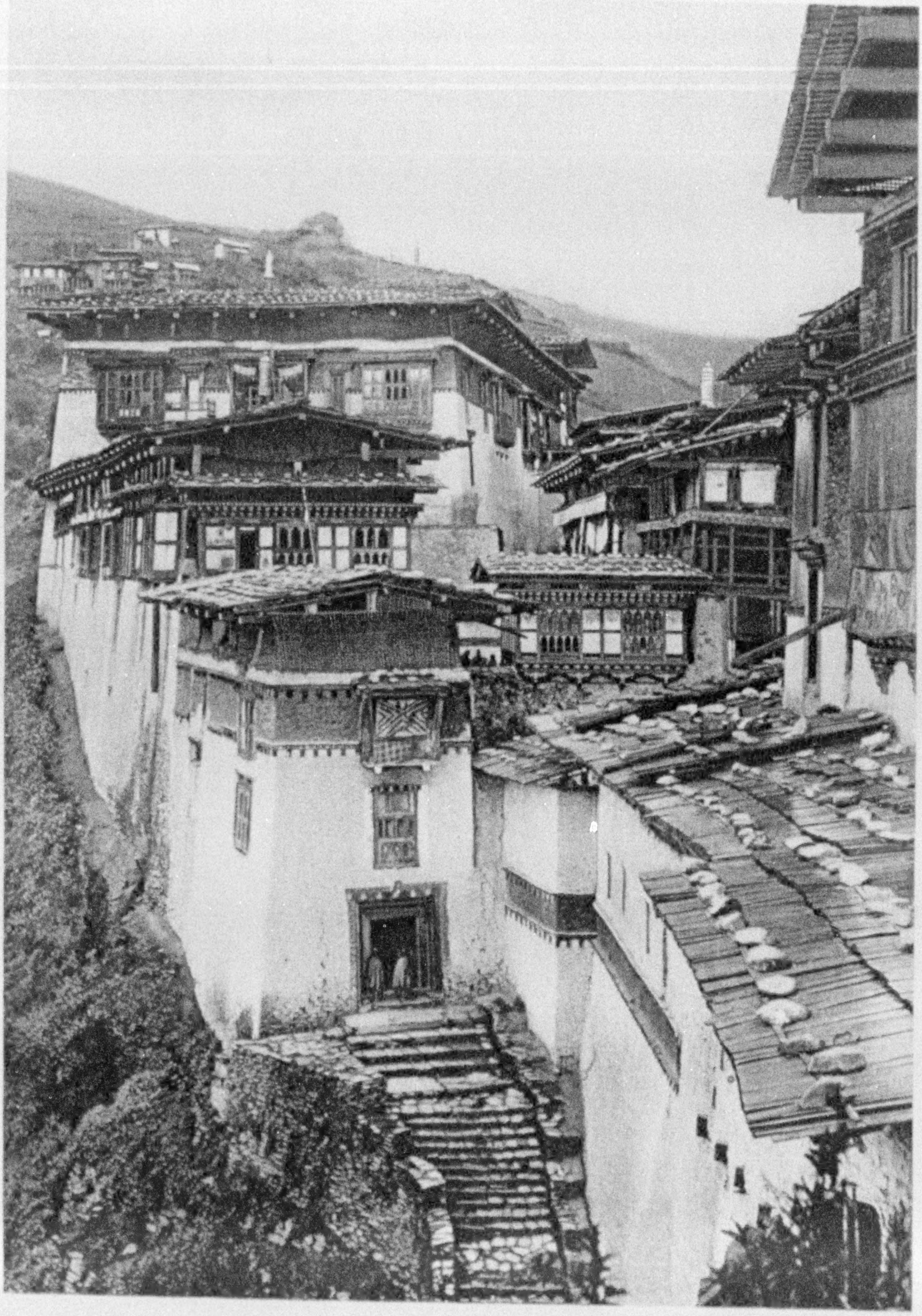
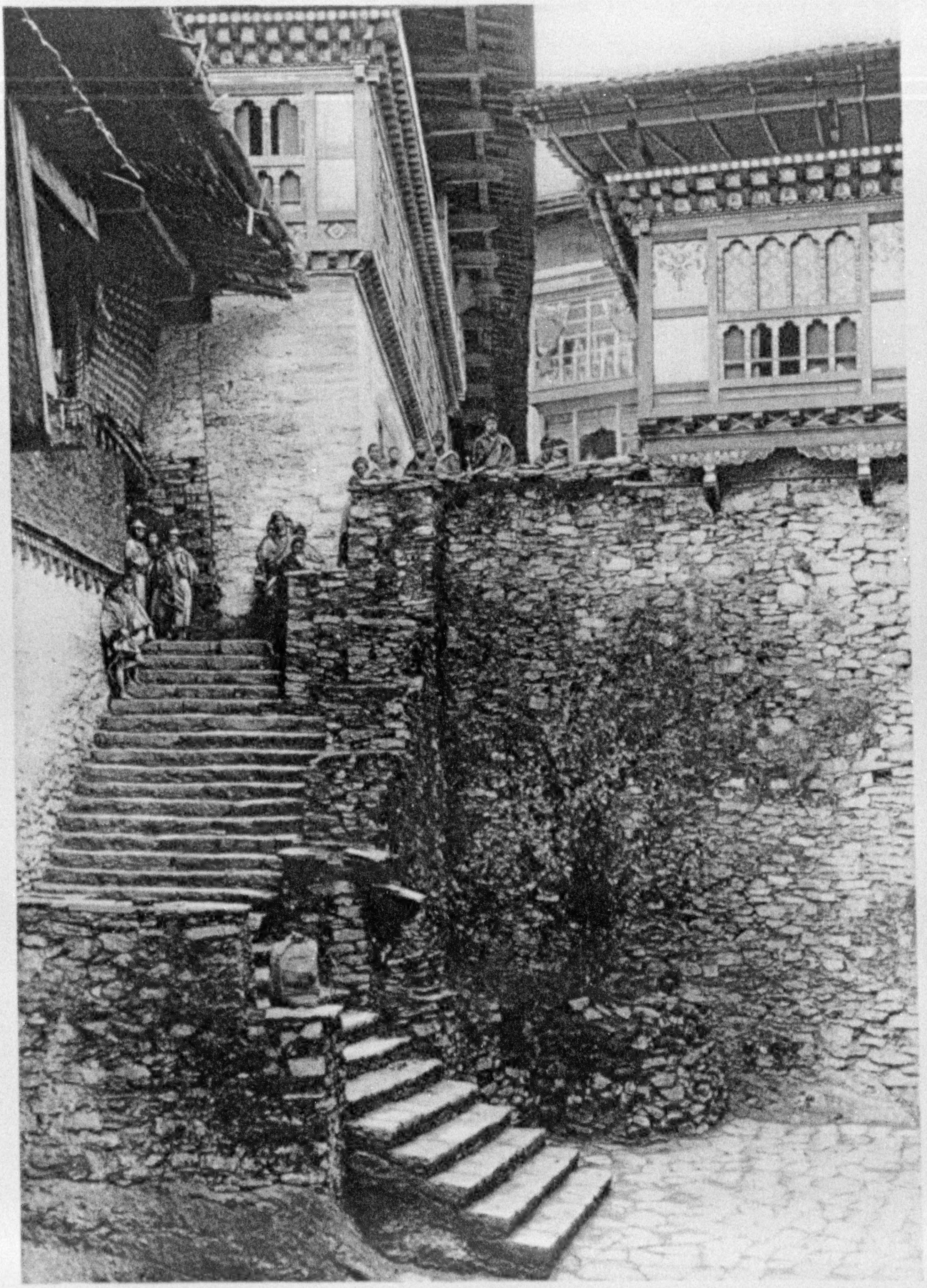


THE PICTURESQUE CASTLE AND OFFICIAL RESIDENCE OF THE KING OF BHUTAN: THE TONGSA JONG

Photo by John Claude White.



A CORNER IN THE TONGSA JONG

"The fort is composed of a wonderful collection of buildings. Within its numerous courtyards, temples and dwellings it contains a population of perhaps 3,000 lamas and laymen, and could hold 6,000." Note the beautifully carved windows and the curious overhanging roofs. Photo by John Claude White.

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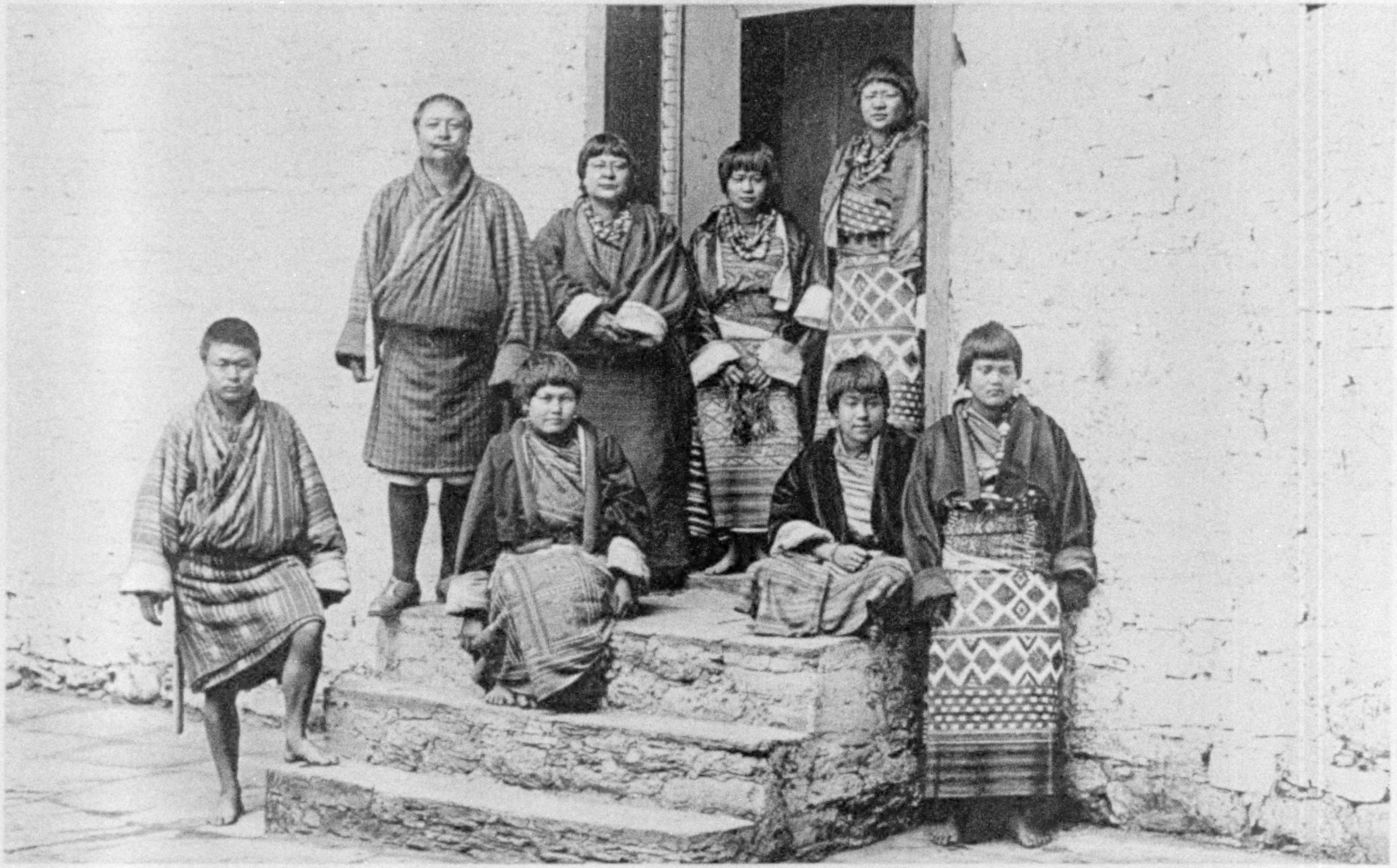
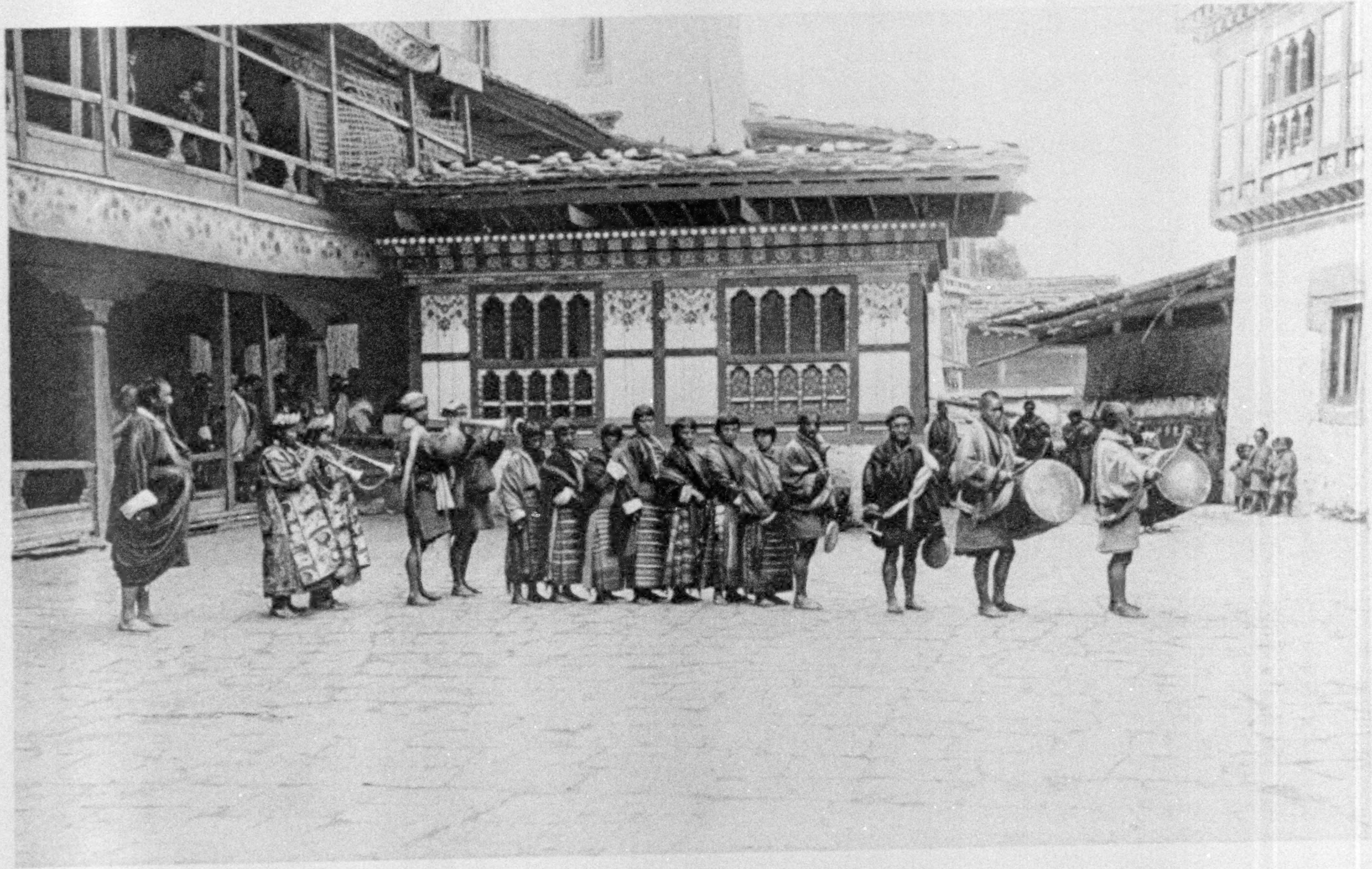


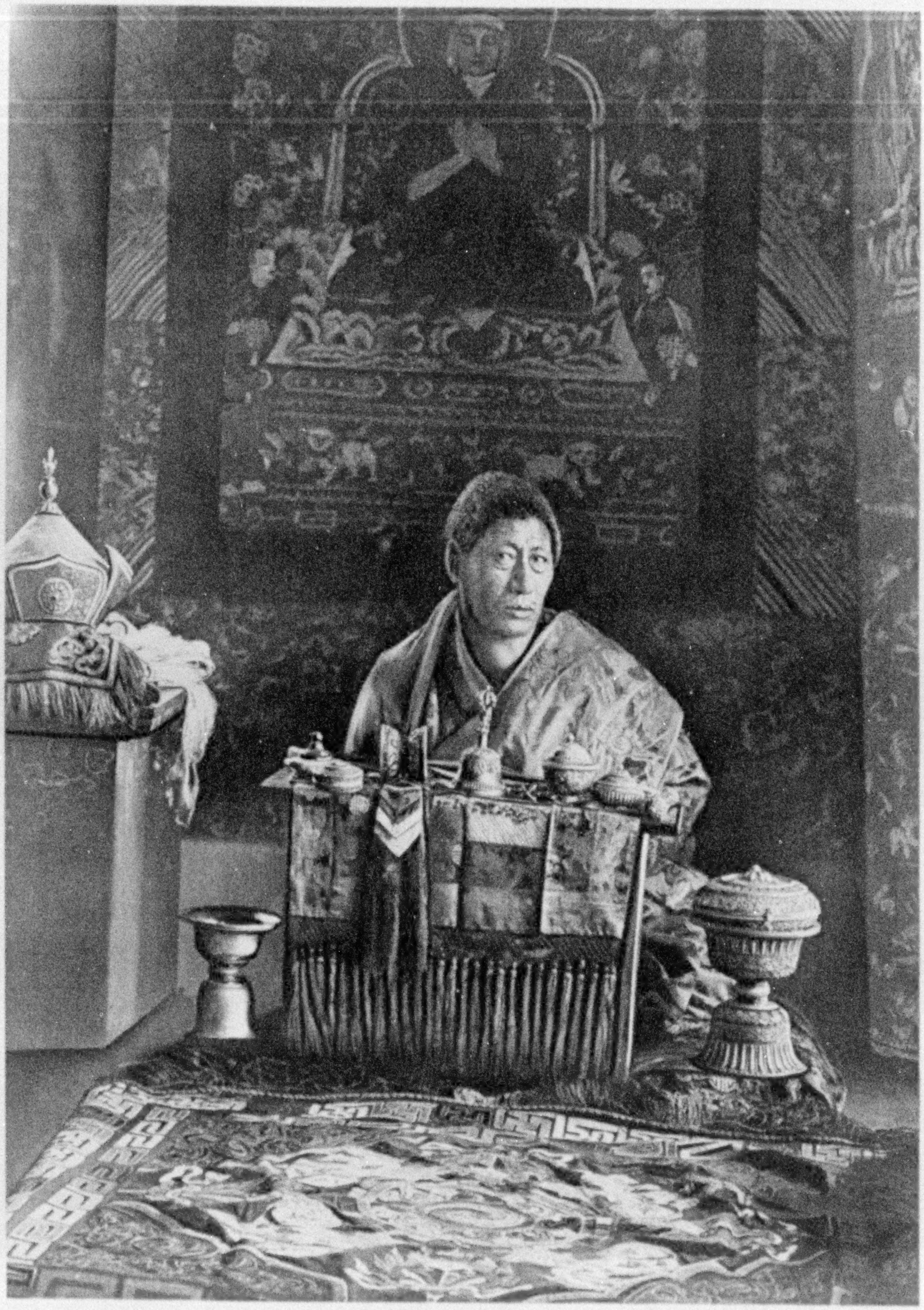
THE ROYAL FAMILY OF BHUTAN

On the top step stands the king, not in his robes of state but in the comfortable attire of private life. Beside him are his sister and her two daughters, and on his right one of his nephews. The three girls in front are serving-maids who wear the modern costume of their class. Photo by John Claude White.



THE KING'S SINGING GIRLS

"We were entertained by the most charming and thoughtful of hosts. Everything that could conduce to our comfort was done, camps pitched, roads mended, even houses built for us to live in; in fact, no host could have done more and few so much. . . On nearing the Fort, a bevy of singing girls met us below the almost perpendicular approach and sang us into the Fort (Tongsa Jong)." Photo by John Claude White.



THE LAST OF THE DEB RAJAS

The Deb Raja was formerly the civil ruler of the country, and was also its ecclesiastical head when there was no Dharma Raja. Behind is seen one of the beautiful embroidered banners, his mitre and scarf on the left, the paraphernalia of office on the table, including a double drum and bell. The embroidered cloth in the foreground is in appliqué work in bright colors. Photo by John Claude White.

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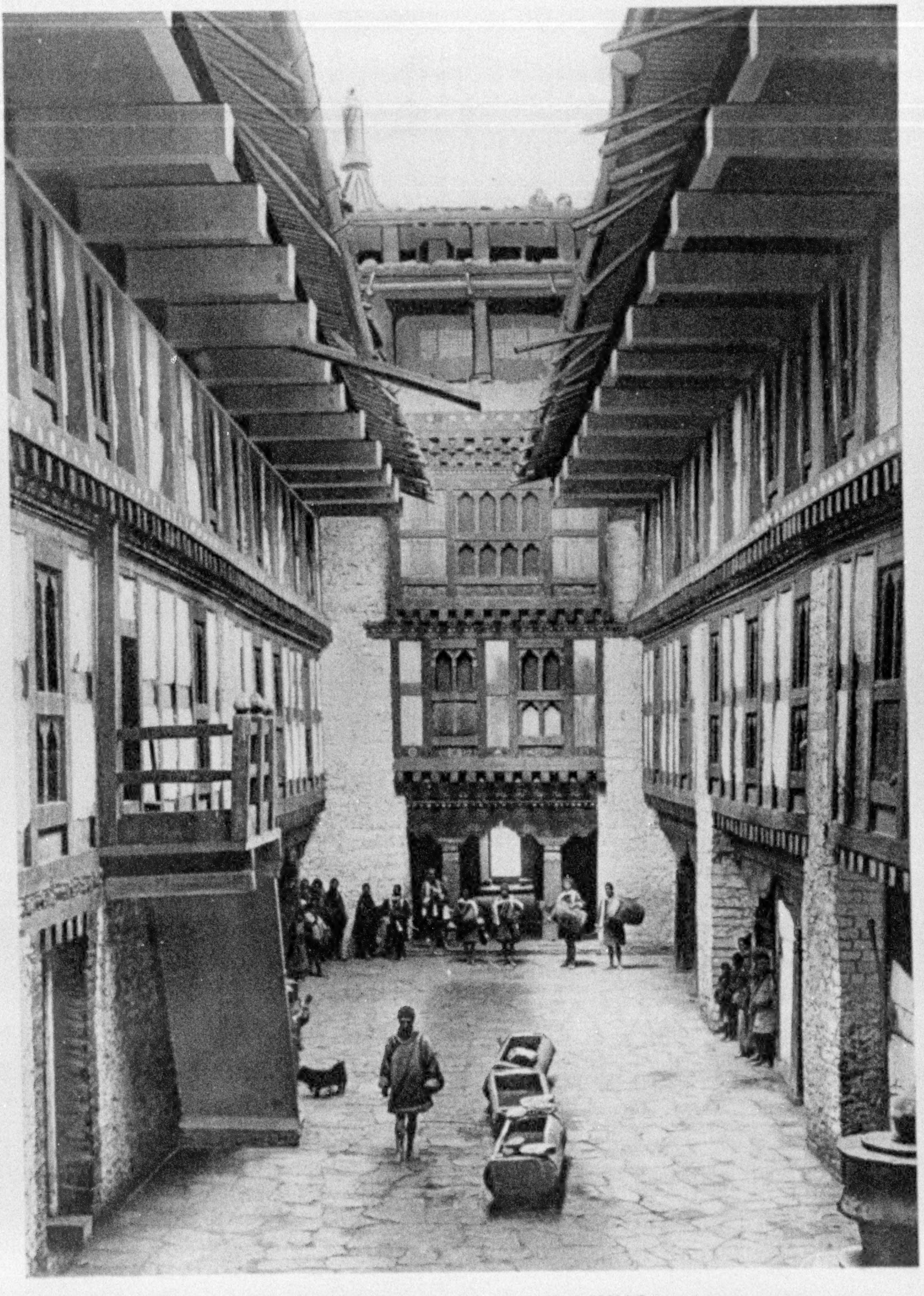

IN THE PALACE OF THE KING

This fortress—the Byagha Jong—is the family residence of the present king. It shows how interesting and picturesque the buildings in Bhutan are. In the background is the band of musicians which welcomed the author to the castle. In the center of the courtyard is the royal bathroom, consisting of three tree-trunks hollowed out to serve as baths. Photo by John Claude White.

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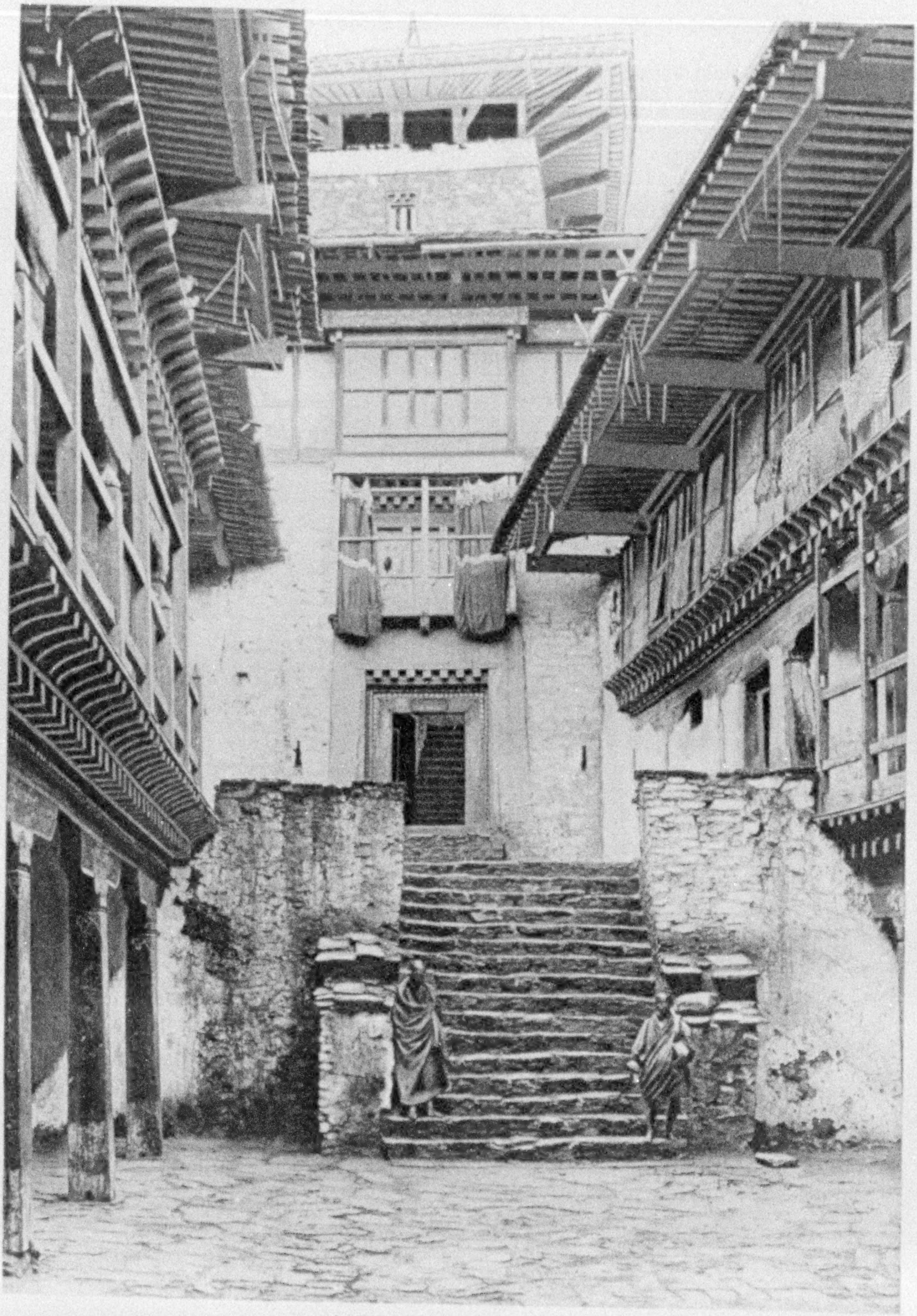

A TYPICAL COURTYARD

The Bhutanese are very clever builders, and their woodwork is always of a high standard of excellence, their doors, windows and panelling being perfect in their way. The houses are of three or four stories, with balconies opening on to courts in the interior. The ornamentation is of carved wood, generally painted. No ironwork is used, and the doors are hung on ingeniously constructed wooden hinges. Photo by John Claude White.

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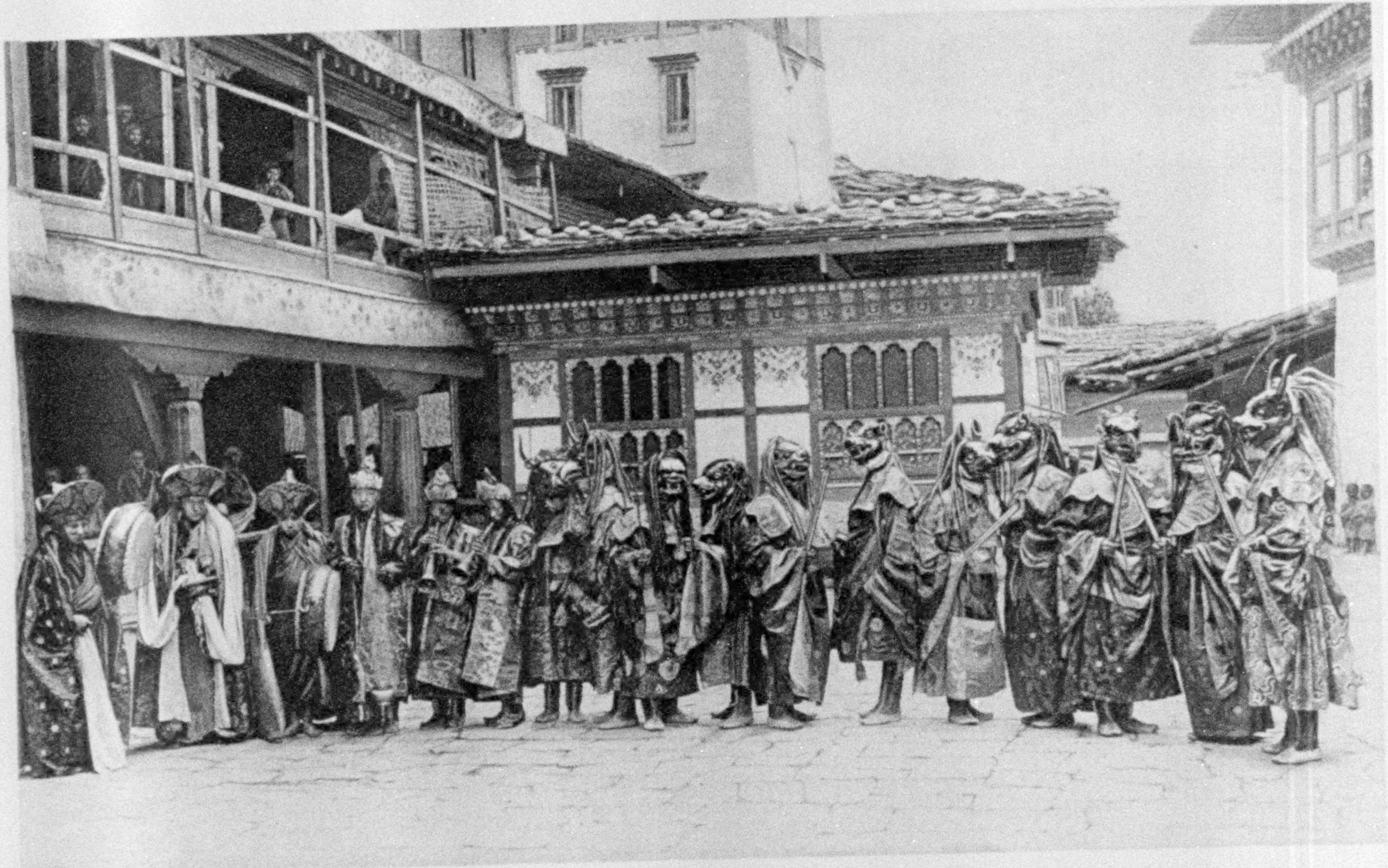

A GROUP OF MASKED DANCERS—TONGSA-JONG

The Bhutanese are, like the Tibetans, Buddhists, and this picture shows a group of lamas, or monks, engaged in one of the religious dances often incorrectly called devil dances. The masked dancers do not represent devils, but virtues and vices and various mythological characters, as in the Miracle Plays of Europe in the Middle Ages. Photo by John Claude White.

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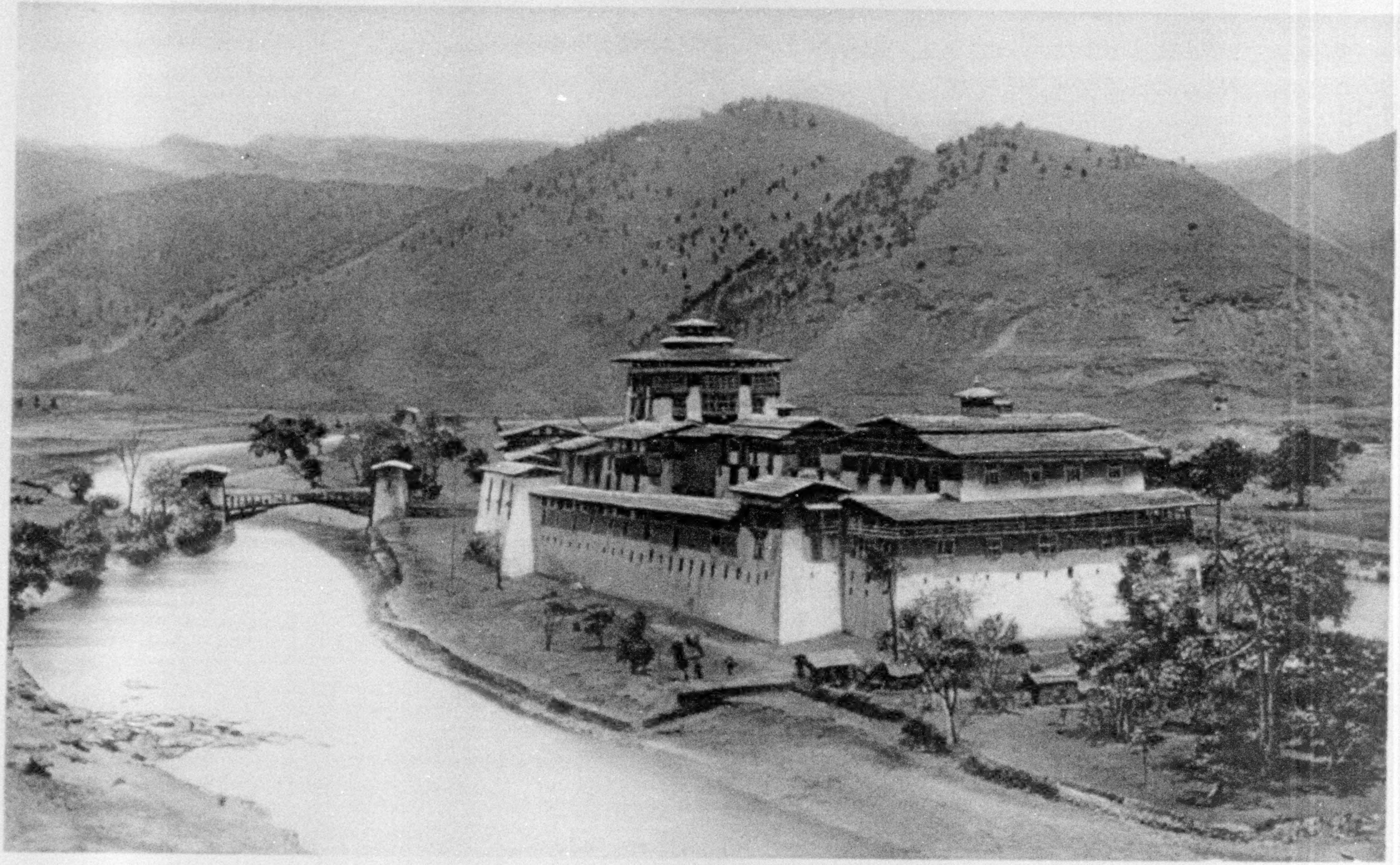
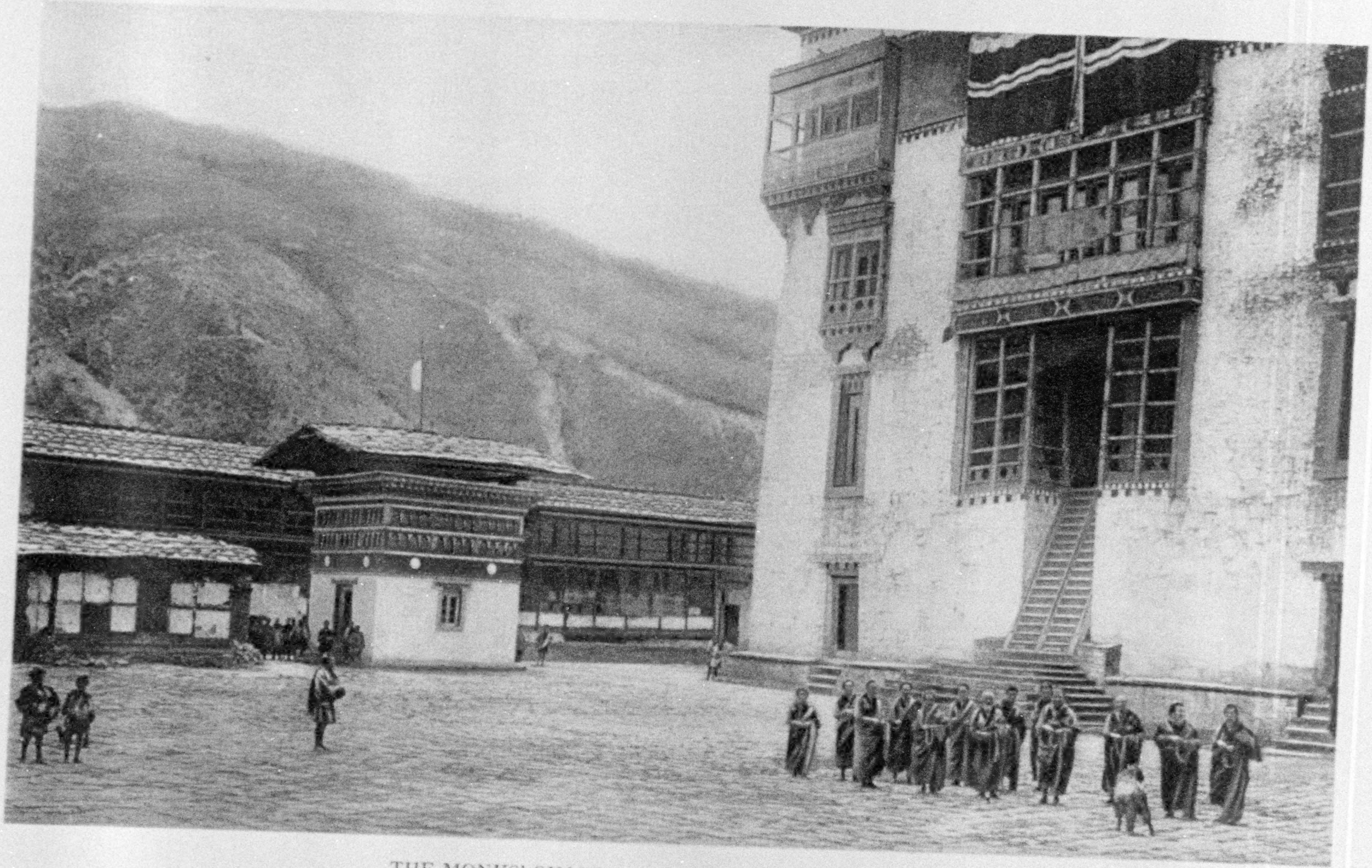


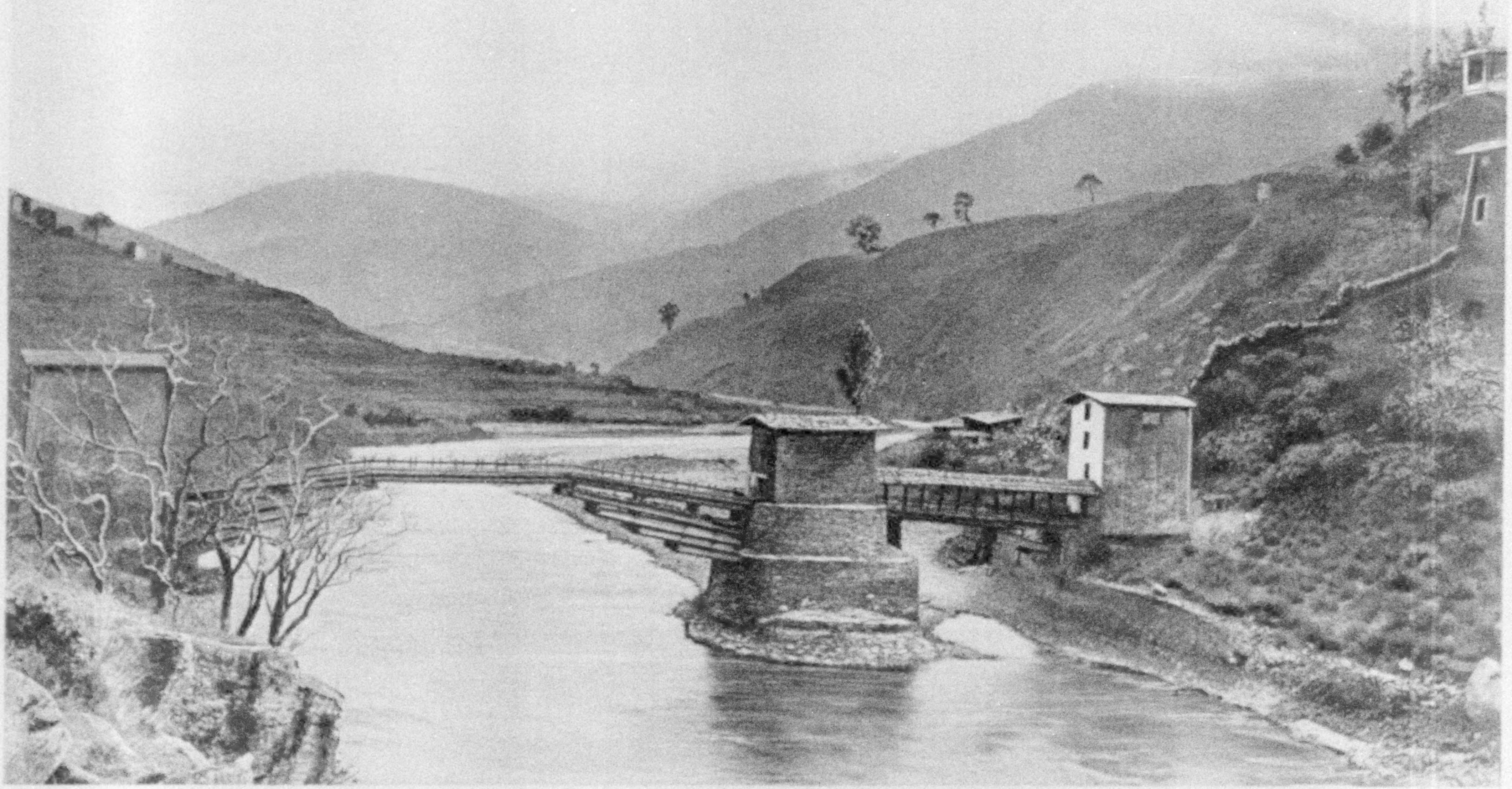
THE WINTER QUARTERS OF THE GOVERNMENT

This fortress, known as the Punakha Jong, a typical Bhutanese stronghold, is the headquarters of the government in winter. Bhutan is an independent state, but it has surrendered to the British Government the control of its foreign relations. In fact, though not in name, this step really made it a part of the Indian Empire. (See also pages 400–406.) Photo by John Claude White.



THE MONKS' QUARTERS IN THE TASHI-CHO-JONG

A group of monks are seen in the foreground, where no layman may enter. This fortress contains many beautifully decorated chapels, the door handles of ironwork inlaid with gold being especially beautiful. It is said to possess one thousand images of Buddha. (See pages 392, 393, 395 and 396.) Photo by John Claude White.



A NATIVE BRIDGE

This bridge, below the castle of Angdu-pho-dong, has a span of 130 feet. It is a fine specimen of native work, and is probably very old. An English visitor to Bhutan 120 years ago made a sketch of a bridge at the same site which has an extraordinary resemblance to the present structure. Photo by John Claude White.

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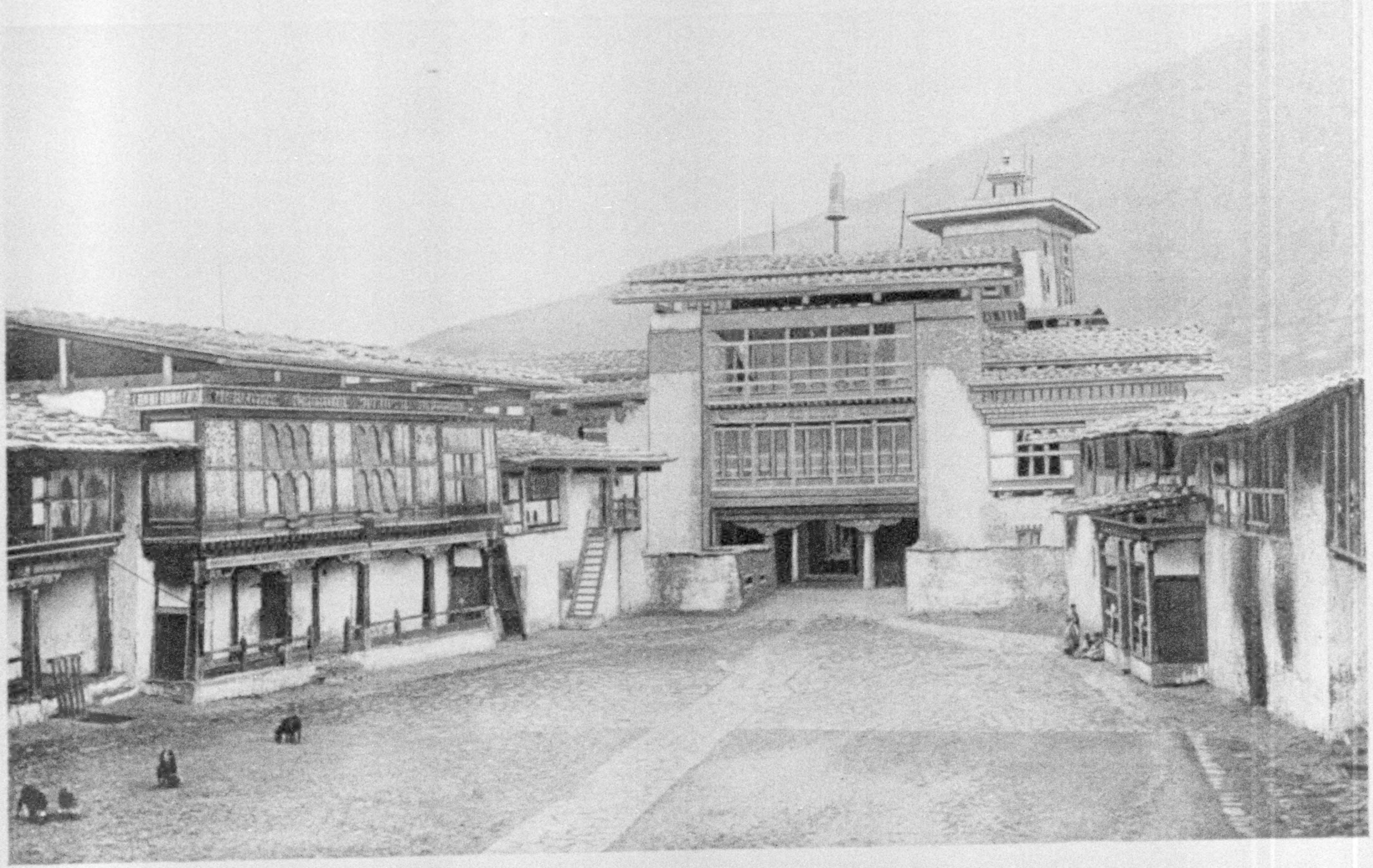
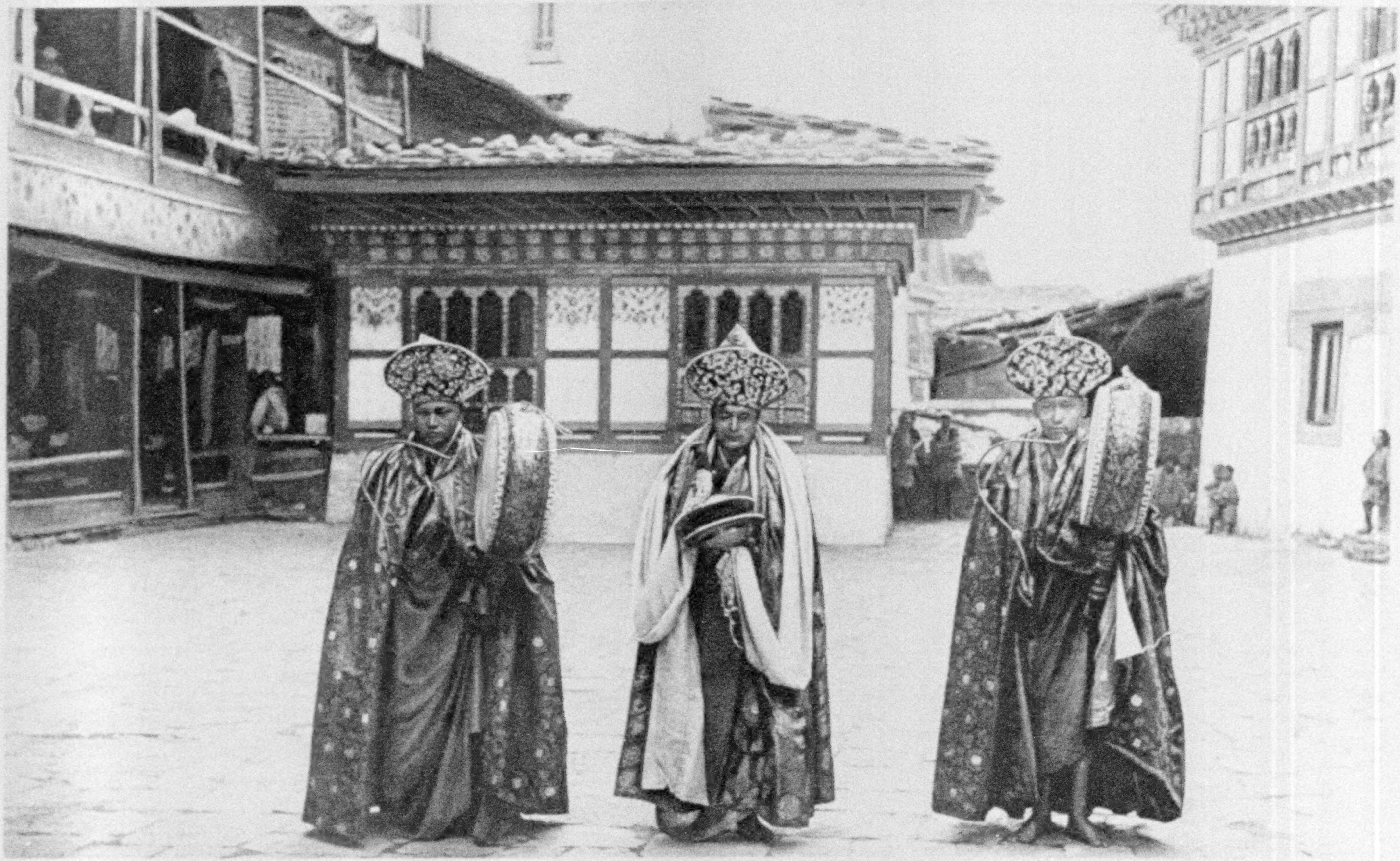


THE CASTLE OF ANGDU-PHO-DONG

Like all Bhutanese strongholds, the interior of this castle is arranged in a series of courtyards. The houses in the one shown in the picture are assigned to minor officials, and here they live in happy familiarity with the domestic animals that can be seen in the foreground. Photo by John Claude White. (See page 415.)



LAMAS IN THEIR GORGEOUS SILK VESTMENTS—TONGSA JONG

These three lamas have assisted at the "mask dance" (see page 435), and, as it is a religious function, they are attired in their robes of office. Lamas is the name given to those monks who belong to the Northern Buddhist Church, and owe spiritual allegiance to the Dalai Lama at Lhasa in Tibet. Photo by John Claude White.

with sheaths of exquisite open silver and gold work set with turquoise.

Every house of any importance has large workrooms attached in which weaving is carried on, and the stuffs produced, consisting of silks for the chiefs' dress, woolen and cotton goods, are excellent; and a good deal of embroidery is also done.

The monasteries possess an art which, so far as I know, is peculiar to Bhutan. They make most beautiful needlework pictures of the saints on hanging banners. Innumerable pieces of colored silks and brocades are applied in a most artistic manner with elaborate stitches of all kinds. Many of them are veritable works of art (see pages 406-407).

Another industry in which the Bhutanese excel is basket-work and fine matting, made from split cane. The baskets are beautifully woven of very finely split cane and some of the lengths are colored to form a pattern. They are made in two circular pieces, rounded top and bottom, and the two pieces fit so closely and well that they can be used to carry water. They are from 6 to 15 inches in diameter, and the Bhutanese use them principally to carry cooked rice and food. They also make much larger and stronger baskets, very much in the shape of a mule-pannier, and these are used in a similar way for pack animals.

The mats are also very finely woven of the same material, with a certain amount of the split cane dyed to form patterns. They are delightfully fine and soft, so flexible they can be rolled up into quite a small space and very durable, and can be got in almost any size up to about 16 feet square, and even larger if they are required.

Possibly the excellence of the work produced in Bhutan owes much to the feudal system which still prevails there. Each penlop and jongpen has his own workmen among his retainers, men who are not paid by the piece and are not obliged either to work up to time or to work if the spirit is not in them, and consequently they put their souls into what they do, with the result that some pieces of splendid individuality and excellent finish are still made. No two pieces are ever quite alike, and each workman leaves his impress on his work.

The suspension bridges in Bhutan are very interesting and merit description. They consist of four or five chains of wrought iron made of welded links, each 15 to 18 inches in length. The three lower chains are tightened up to one level, and on them a bamboo or plank roadway is placed. The remaining chains, hanging higher up and further apart, act as side supports, and between them and the roadway there is generally a lattice-work of bamboo, or sometimes grass, in order that animals crossing may not put their legs over the side. The roadway is never more than three or four feet wide.

Many of the chains on these bridges are extremely old—many hundreds of years—and appear to be of Chinese workmanship. The links are in excellent order and very little pitted with rust. The other and newer chain bridges have been made in Bhutan.

I should have liked to stay longer in Bhutan, but I could spare no more time and was obliged to turn my face homeward and take leave of my most charming and entertaining hosts, which I did with great reluctance.

MAGNIFICENT GORGES

On the homeward journey we went north from Tashi-cho-jong, traveling up the magnificent gorges of the Tchin-chu, passing the monasteries of Perugri-sampti-guatsa and Tango to the higher grazing grounds.

The gorge of the Tchin-chu is bordered by stupendous cliffs of most weird shapes, among which El Capitano, of the Yosemite Valley, would be dwarfed by the lowest of these monsters. These cliffs appeared to be formed by horizontal strata of sedimentary rocks, consisting of layers of limestone, sandstone, slate or shale of a dark-blue color and quartzites. The towering rocks were cleft in numberless places from top to bottom, leaving narrow slits or fissures, which I was told were often more than a mile long. One which I photographed extends for more than two miles before it opens out in a beautiful basin, and forms one of the Thimbu's best grazing stations.

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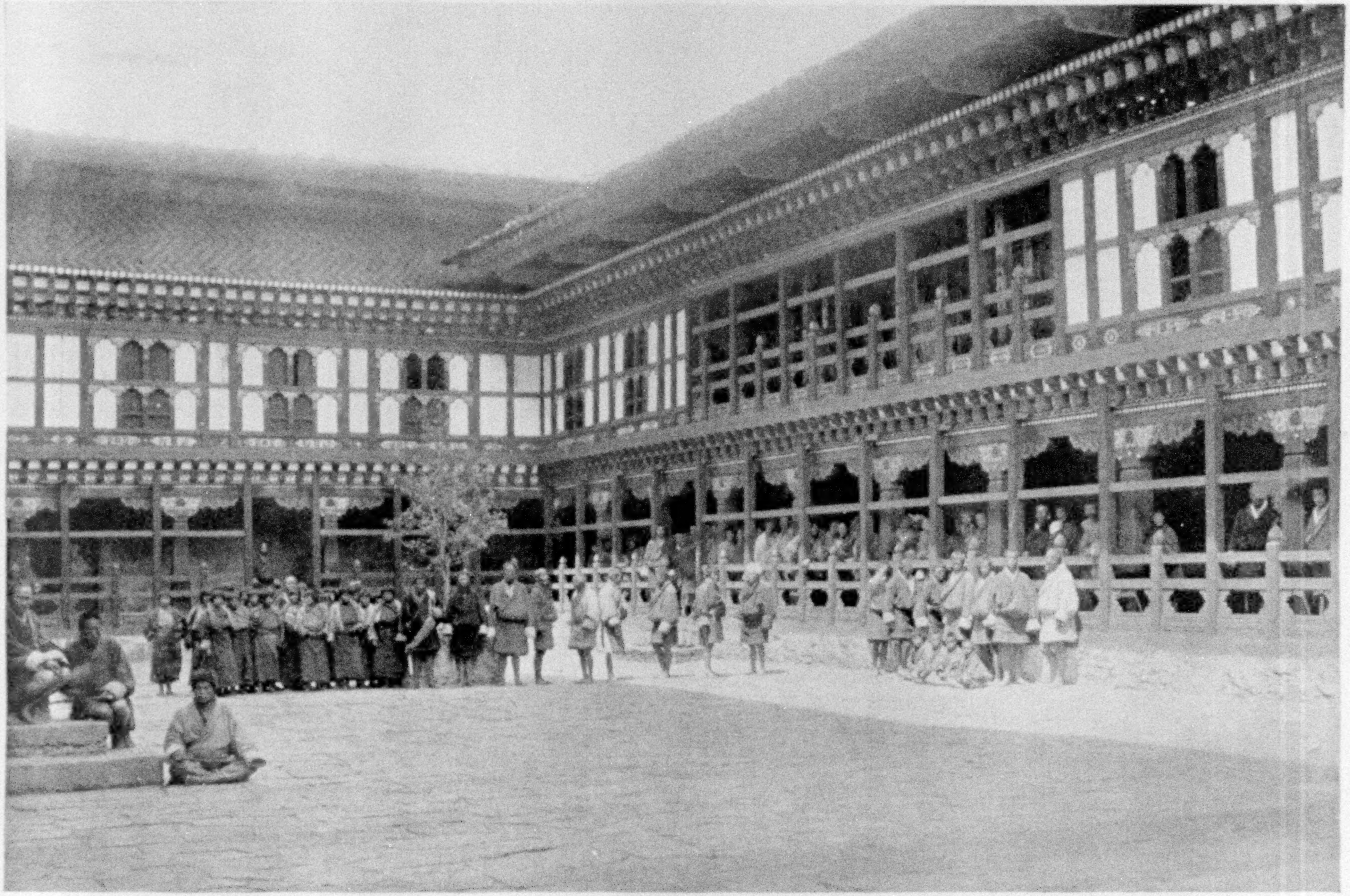
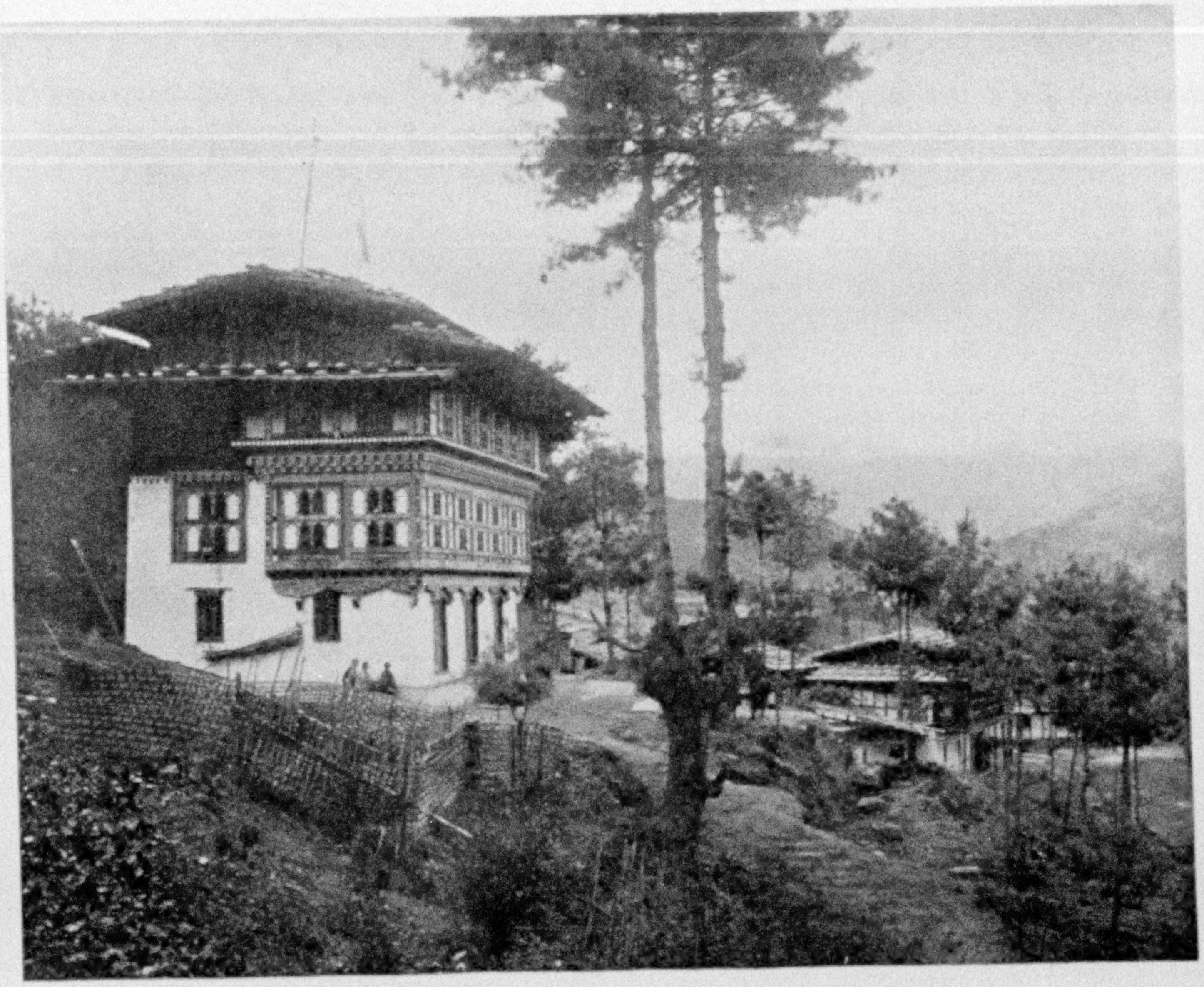


INTERIOR OF SIR UGYEN'S HOUSE AT BYAGHA, WITH GROUPS OF WEAVING WOMEN: ON RIGHT UPPER STORY ARE THE WEAVING ROOMS
(SEE TEXT, PAGES 427-428, AND PICTURE, PAGE 437)



THE PICTURESQUE SUMMER RESIDENCE OF SIR UGYEN'S SISTER AT SANGACHOILING: SITUATED ABOUT FOUR MILES NORTH OF BYAGHA

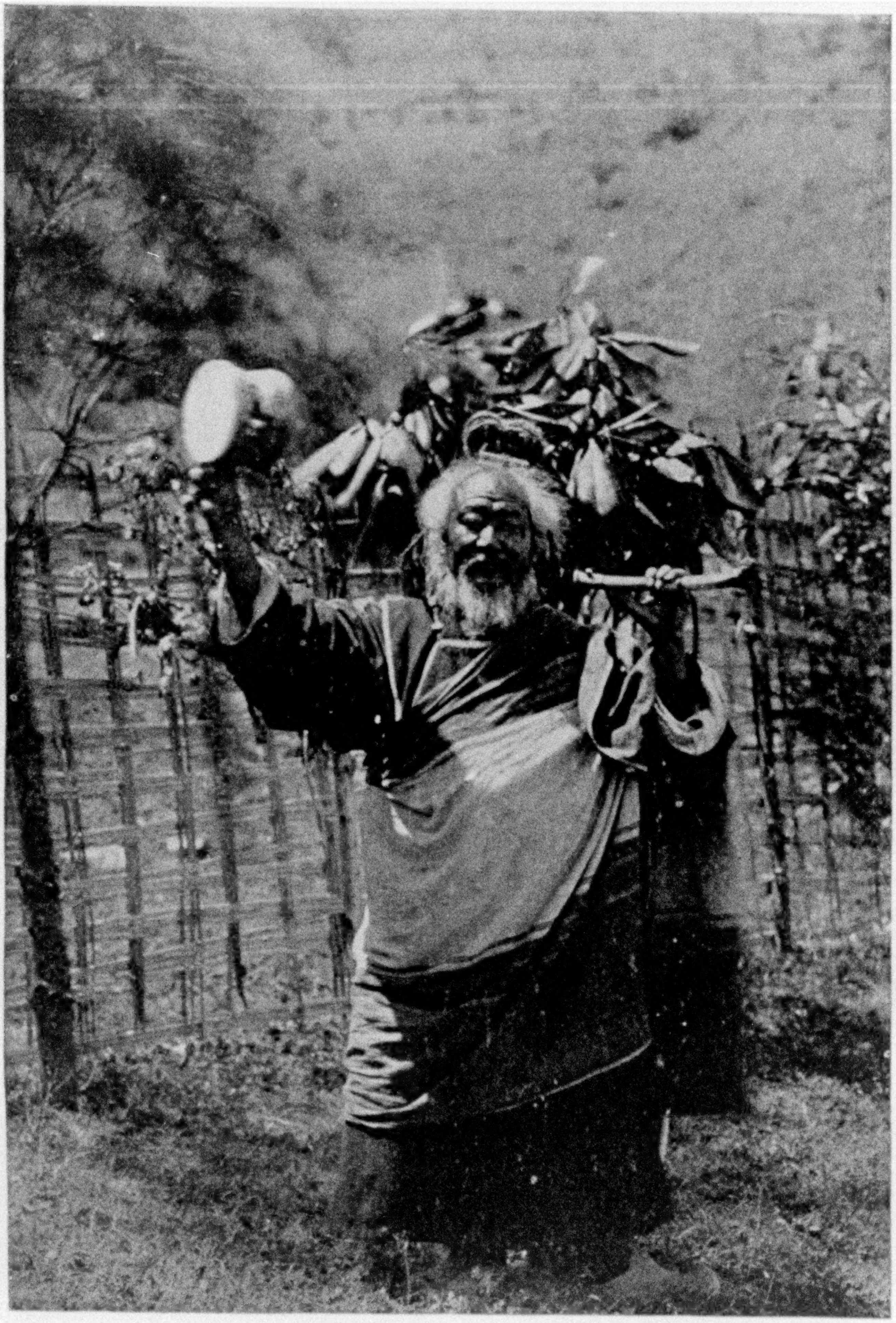
Presently we came to Gangyul (13,600 feet), a little village in a narrow, flat valley close under the eastern glaciers of Cho-mo-Lha-ri. While our camp was being got ready, I rode two or three miles up the valley in the hope of seeing a remarkable cave which we were given to understand was in the locality. We soon discovered, however, that our guide was much more anxious to show us a large flat rock of slate situated between two branches of the Tsango-chu, at the head of which was a wooden axle forming a rack.

DEVOURED BY LAMMERGEIERS

It was carefully explained to us that this was a holy spot on which human corpses, the head and shoulders tied to the axle to keep the body in place, were exposed, to be eaten by lammergeiers and other ravenous birds and beasts of prey. In perfectly solemn and earnest good faith we were told that the birds were fastidious and would not touch low-caste bodies, and that only three families in the valley were entitled to be thus disposed of.

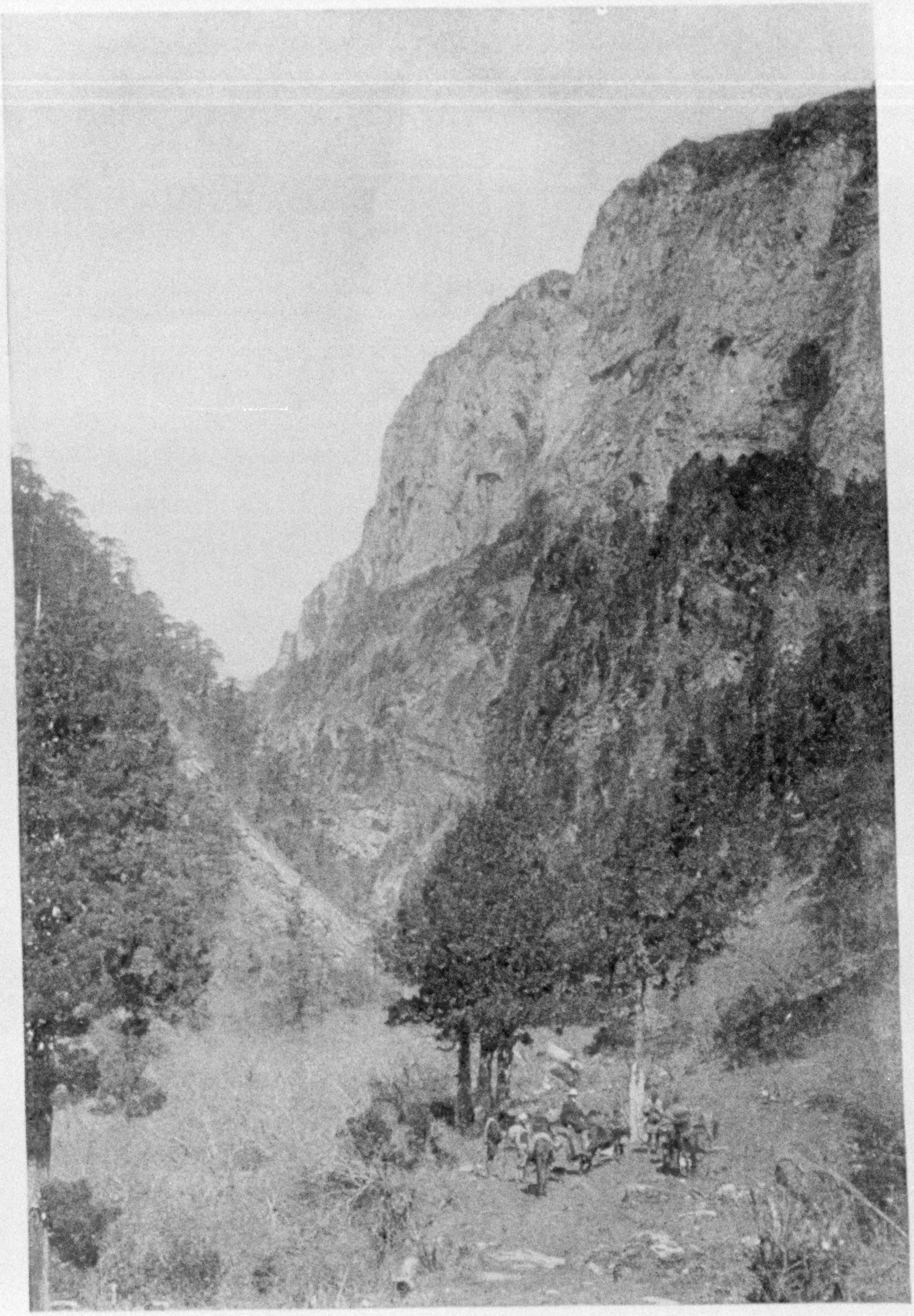
The Thimbu excused himself from accompanying me, as the memories connected with this spot were very painful to him, his daughter only a few years before having been laid on the slab.

One of our guides lay down on the slab, while another lit a smoky fire, devices which, they said, would be sure to attract the lammergeiers from their eyries; but the deception failed and no birds appeared. In another respect the little valley was very remarkable, as the glaciers seemed to completely close in the head, and I saw two avalanches and heard several more, caused by the increasing power of the sun's rays on the snow.



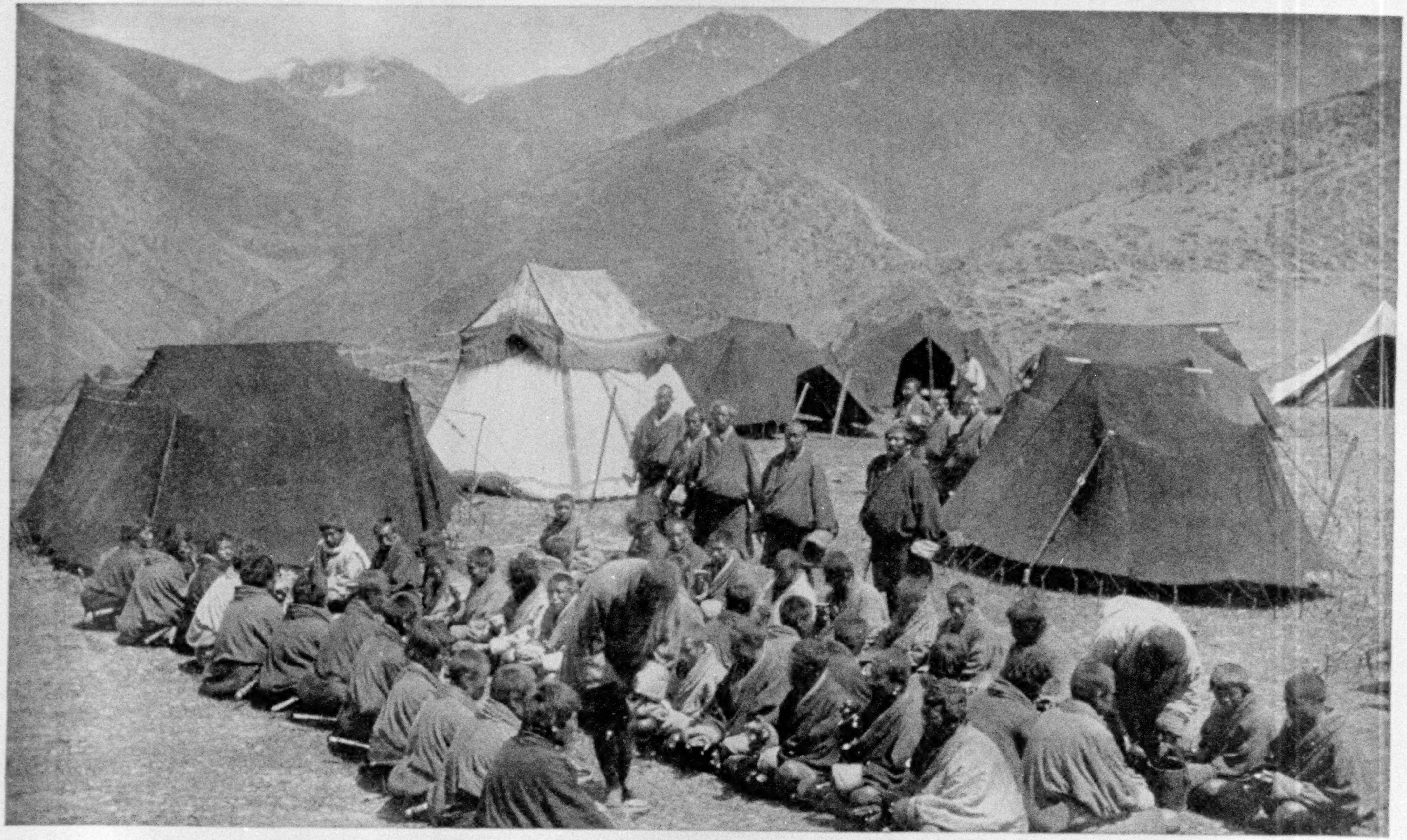
AN OLD LAMA, KNOWN AS THE LHASA DOCTOR

He was quite a character, and posed himself for this picture with his human thigh-bone trumpet and skull drum

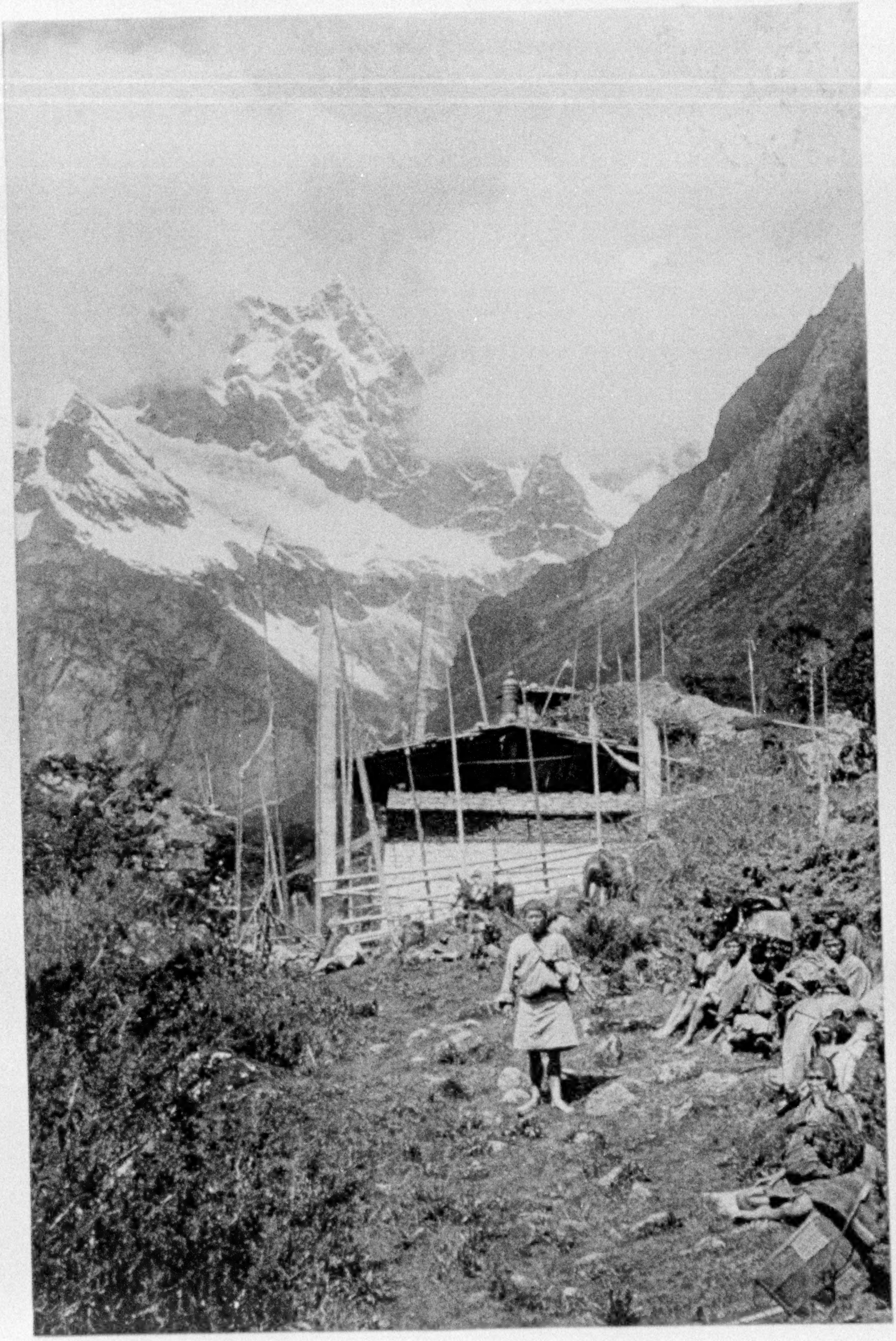


A VIEW UP THE TCHIN-CHU GORGE; RIDING YAKS AND MULES IN FOREGROUND

The Bhutanese have a curious habit of feeding their mules with eggs when engaged in a specially difficult journey (see text, page 377)



FEEDING FOLLOWERS AFTER ARRIVAL IN CAMP; BLACK YAKS' HAIR TENTS AND EMBROIDERED TENT BELONGING TO THE HEAD MAN



VIEW LOOKING TOWARD THE BOD-LA PASS, A SMALL TEMPLE SURROUNDED BY PRAYER-FLAGS, AND OUR COOLIES AND THEIR LOADS IN THE FOREGROUND

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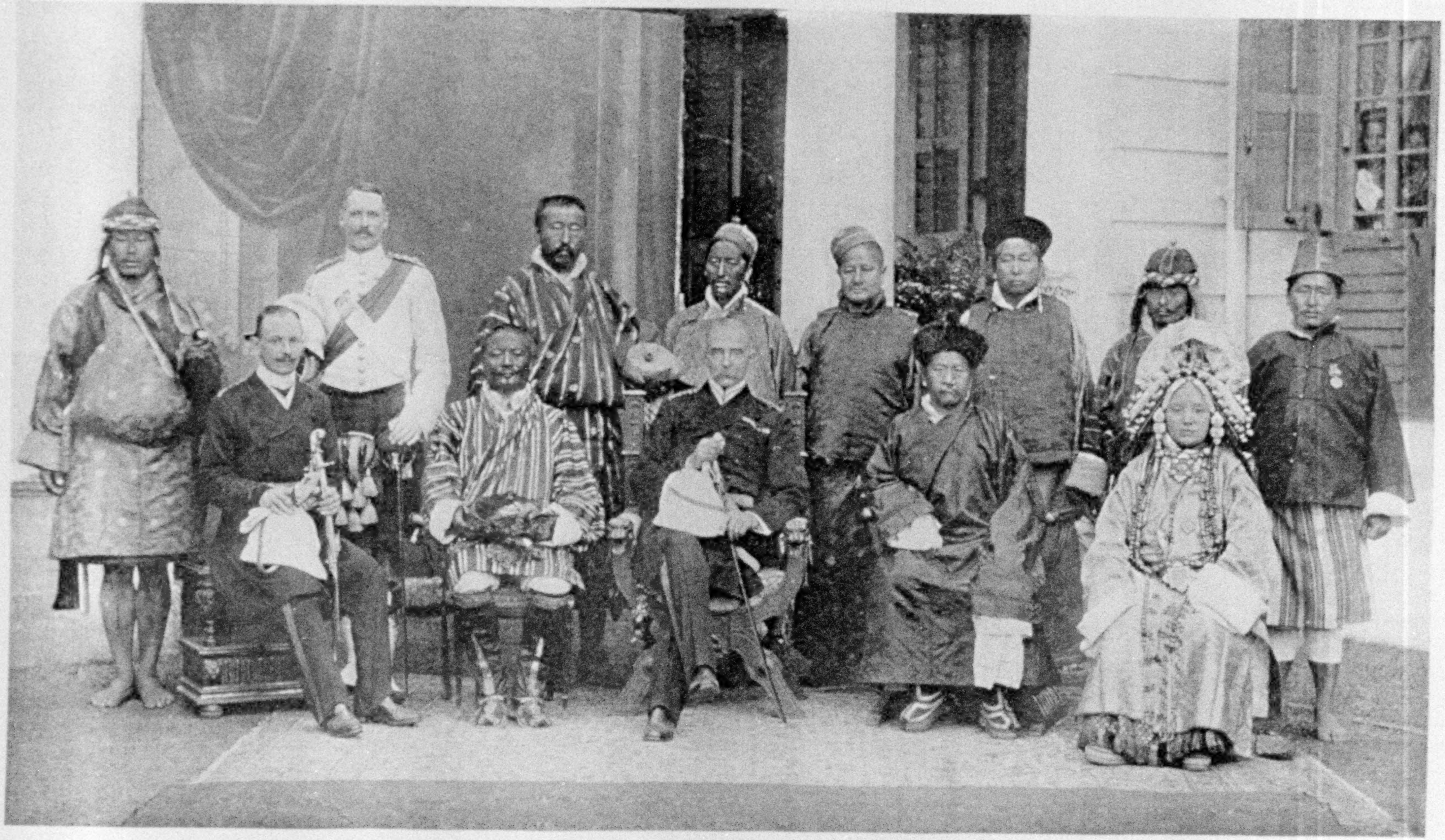
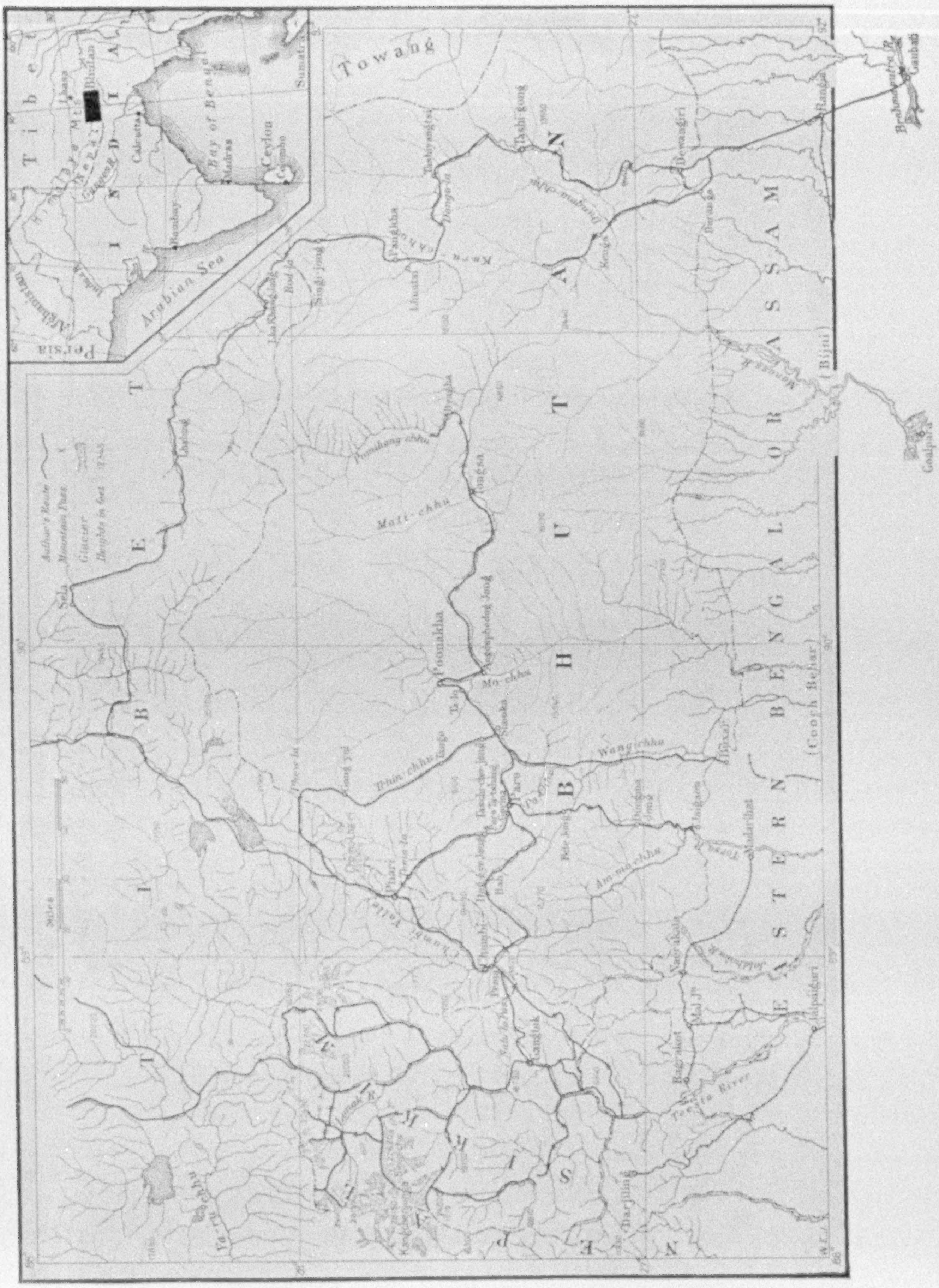


GROUP TAKEN IN CALCUTTA DURING THE VISIT OF H. R. H., THE PRINCE OF WALES

From left to right: Bhutan Orderly, Mr. R. E. Holland, Foreign Office; Captain Hyslop, 93d Higlanders, on special duty during H. R. H.'s visit; Sir Ugyen, Ugen Dorji, the author, Rai Lobzang Chuden Sahib, Jerung Dewan, H. H. the Maharaja of Sikkim, Barmiak Kazi, H. H. the Maharani of Sikkim, Bhutan Orderly, Sikkim Orderly.


Tibet
Bhutan
Assam
Eastern Bengal or Assam
Nepal
Sikkim
Towang
Poonakha
Paro
Gangtok
Darjiling
Mo-chhu
Wang-chhu
Mati-chhu
Tista River
Bay of Bengal
Arabian Sea
India
Persia
Ceylon
Calcutta
Bombay
Madras
Goalpara
Gauhati
Brahmaputra R.
(Cooch Behar)
Author's Route
Mountain Pass
Glacier
Heights in feet

OUTLINE MAP OF BHUTAN, SHOWING JOURNEYS BY JOHN CLAUDE WHITE (SEE PAGE 365)

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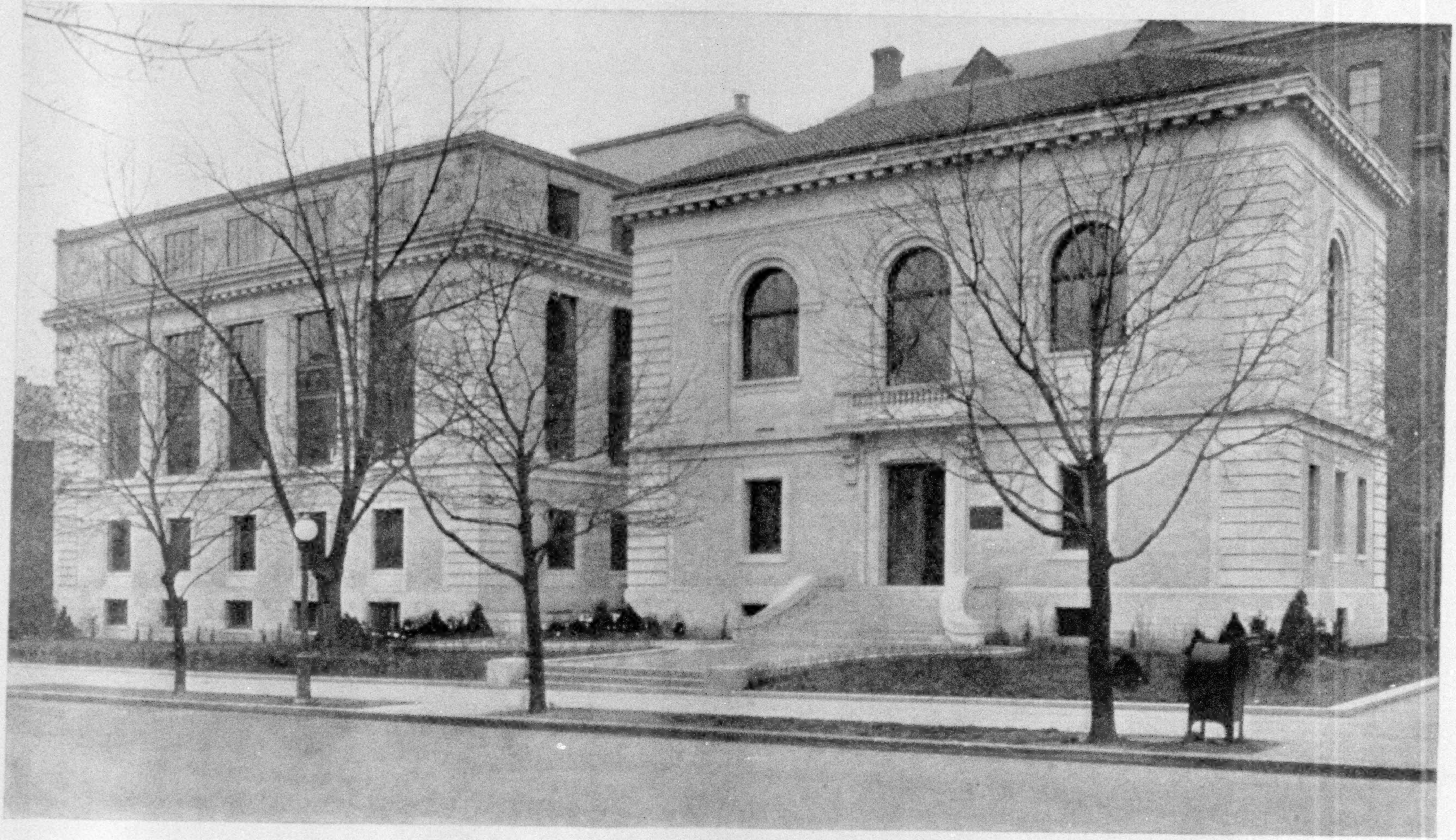


THE HOME OF THE NATIONAL GEOGRAPHIC SOCIETY

On the right is the Gardiner Greene Hubbard Hall, erected for the Society by the heirs of its first President. In this beautiful building are the Board rooms and Library. The administration building adjoining, which has just been completed, is devoted to the editorial and business offices of the Magazine. The Society's spacious home is located on Sixteenth street, one of Washington's most beautiful boulevards, where many of the foreign embassies are located, and five squares north of the White House. Mr. Arthur B. Heaton is the architect of the new building, which was built by the George A. Fuller Co.

The main glacier was most beautiful, looking like a curious broad staircase of snowy whiteness, leading from where we stood heavenward. There were several fine waterfalls gushing out from holes in the cliffs high above us and disappearing before they reached the path, the rivulets of water oozing out again from the banks of the main stream, showing that the water had resumed a subterranean course. A curious feature about the falls was that as the power of the sun increased so did the waterfalls visibly increase in size. Our camp that night was a cheery one and we relieved the time by learning, to the great amusement of the bystanders, to play Bhutanese backgammon, our implements being two wooden dice, a collection of little wooden sticks of varying length, and a handful of beans.

A short march brought us to the Phew-la, or Ling-shi-La, over which pass we crossed into Tibet.

By this time the different kinds of transport I had used during my tours had included, I should think, about every known sort. I had made use of coolies, elephants, mules, ponies, donkeys, yaks, oxen, carts, pony-traps, rail, and steamer, and the only available animal I had not employed was the Tibetan pack-sheep.

I hope I may have interested my readers by my account of this hitherto-unknown country, one so little known that as recently as 1890 a high Indian official wrote most undeservedly, as my explorations proved: "No one wishes to explore that tangle of jungle-clad and fever-stricken hills, infested with leeches and the pipsa-fly, and offering no compensating advantages to the most enterprising pioneer. Adventure looks beyond Bhutan. Science passes it by as a region not sufficiently characteristic to merit special exploration."

And with this quotation I must close for the present, though later I hope to give the readers of the NATIONAL GEOGRAPHIC MAGAZINE some of my impressions of Tibet itself, in which country I have also done a certain amount of traveling.

THE NATIONAL GEOGRAPHIC SOCIETY AND ITS NEW BUILDING

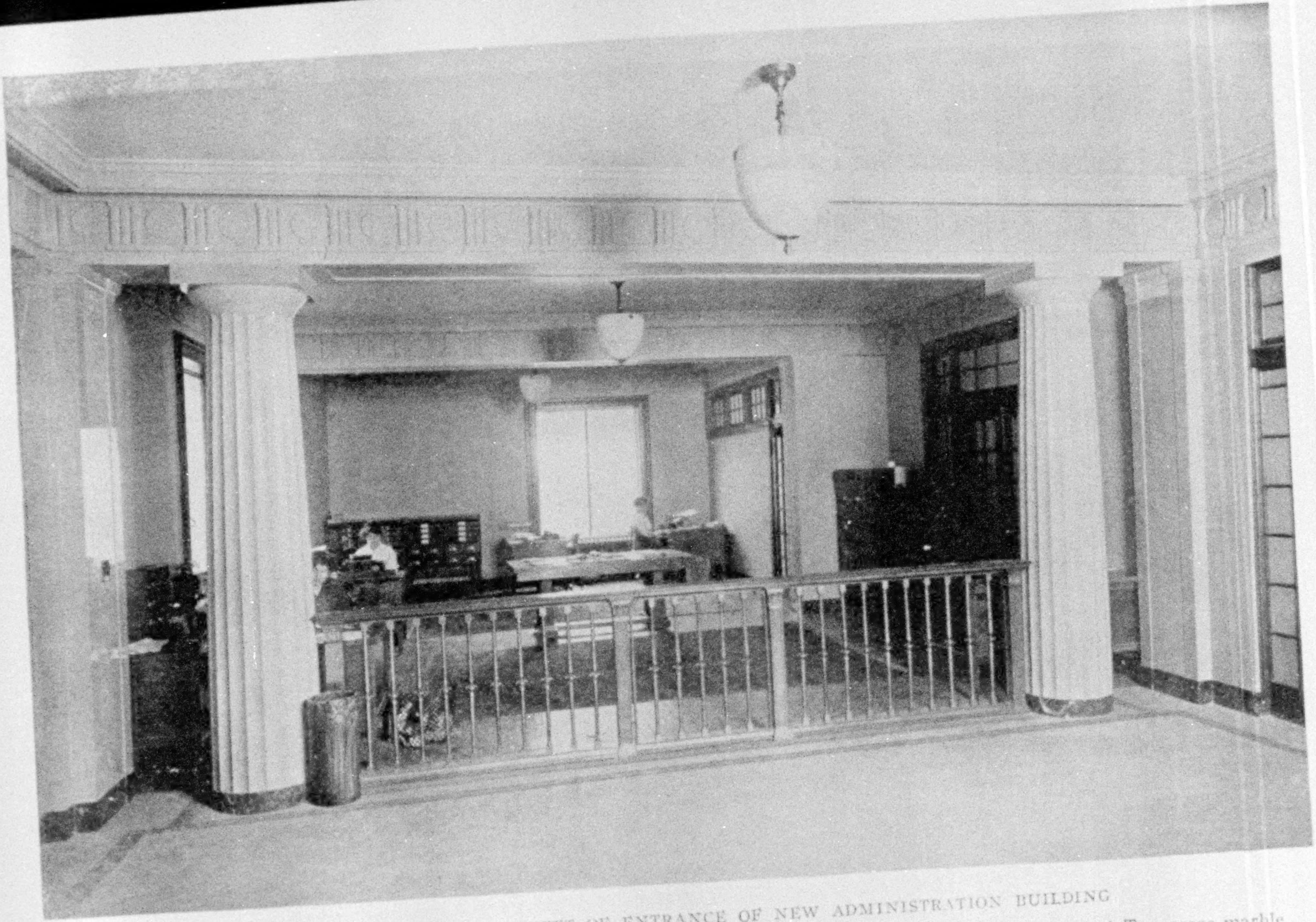
BUILT with the solidity of a government building, planned as a model of what a building may be as the home of a great society and as the quarters of a large office force, the new building of the National Geographic Society combines every feature that modern architecture and sanitary engineering had to suggest toward making it the architectural representation of the ideals of the Society.

Its splendid proportions are typical of the wonderful growth of a great movement for the increase and diffusion of geographic knowledge. That movement began with the founding of the National Geographic Society, "for the increase and diffusion of geographic knowledge," January 27, 1888, by a small band of explorers and scientists.

For some ten years the Society followed the usual course of scientific societies, being a small institution with many ambitions, which the limitations of its funds prevented being fulfilled except in an imperfect way. Then, in 1899, came a new idea. Why not popularize the science of geography and take it into the homes of the people? Why not transform the Society's Magazine from one of cold geographic fact, expressed in hieroglyphic terms which the layman could not understand, into a vehicle for carrying the living, breathing, human-interest facts about this great world of ours to the people? Would not that be the greatest agency of all for the diffusion of geographic knowledge?

A GEOGRAPHIC AWAKENING

With an affirmative answer, a new era in geographic education dawned. The National Geographic Society found the whole world ready to enrich the pages of



GENERAL OFFICE: TO LEFT OF ENTRANCE OF NEW ADMINISTRATION BUILDING

Where visiting members are received. The entrance and Reception-room are finished in Botticini and Tennessee marble its Magazine with the best things that travel, research, and exploration could bring, and it found the people eager for the knowledge those pages brought them. From that day to this there has been growth, growth, growth—growth that is expressed in the Society's new home, growth that is disclosed in the remarkable contents of the Magazine, growth that is emphasized by the fact that today the National Geographic Society is the largest and most popular scientific society in the world, and its Magazine the most widely circulated non-fiction magazine on earth.

The Society has no endowments; its endowment is the remarkable interest that the Magazine has stimulated throughout the world and the wonderful support it commands. With no other dividends to pay than the dividends of information it carries to its readers, the income derived from the Magazine can be put back into it and into the explorations and research work of the Society.

HUBBARD MEMORIAL HALL

Until 1902 the National Geographic Society was without a home of its own, but that year the heirs of the Hon. Gardiner Greene Hubbard built Hubbard Memorial Hall as a home for the Society and as a memorial for its first President. It looked as if they had discounted the future liberally and had anticipated the day of the greatest growth to which the Society could hope to attain. They little reckoned that within a single decade the rising tide of geographic interest would sweep into the Society a membership such as no other scientific society in the world has enjoyed; that before the ear-marks of newness were off the walls, the Society's management would have to be working and planning for more space.

Long before ten short years had passed Hubbard Memorial Hall was full and overflowing, and two branch offices had to be established in rented quarters. Soon the Board of Managers saw that it was only a question of two or three years until its own quarters would demand enlargement, and made provision for that day by acquiring the land adjoining the Hubbard Memorial Hall, a fine plat of ground 90 by 100 feet; they also began gradually to accumulate a building fund out of the receipts of the Society's business.

The work on the new building, which was designed by Architect Arthur B. Heaton, was begun on March 27, 1913; and, owing to the energy and faithfulness of the contractors, the George A. Fuller Construction Co., was completed in less than seven months. The results of that work are graphically told by the pictures and by the following letter, written by Mr. E. Z. Blagg, vice-president and general manager of the Globe-Wernicke Company, who was in charge of the erection of the new plant of that company, the largest woodworking plant in the world. He says:

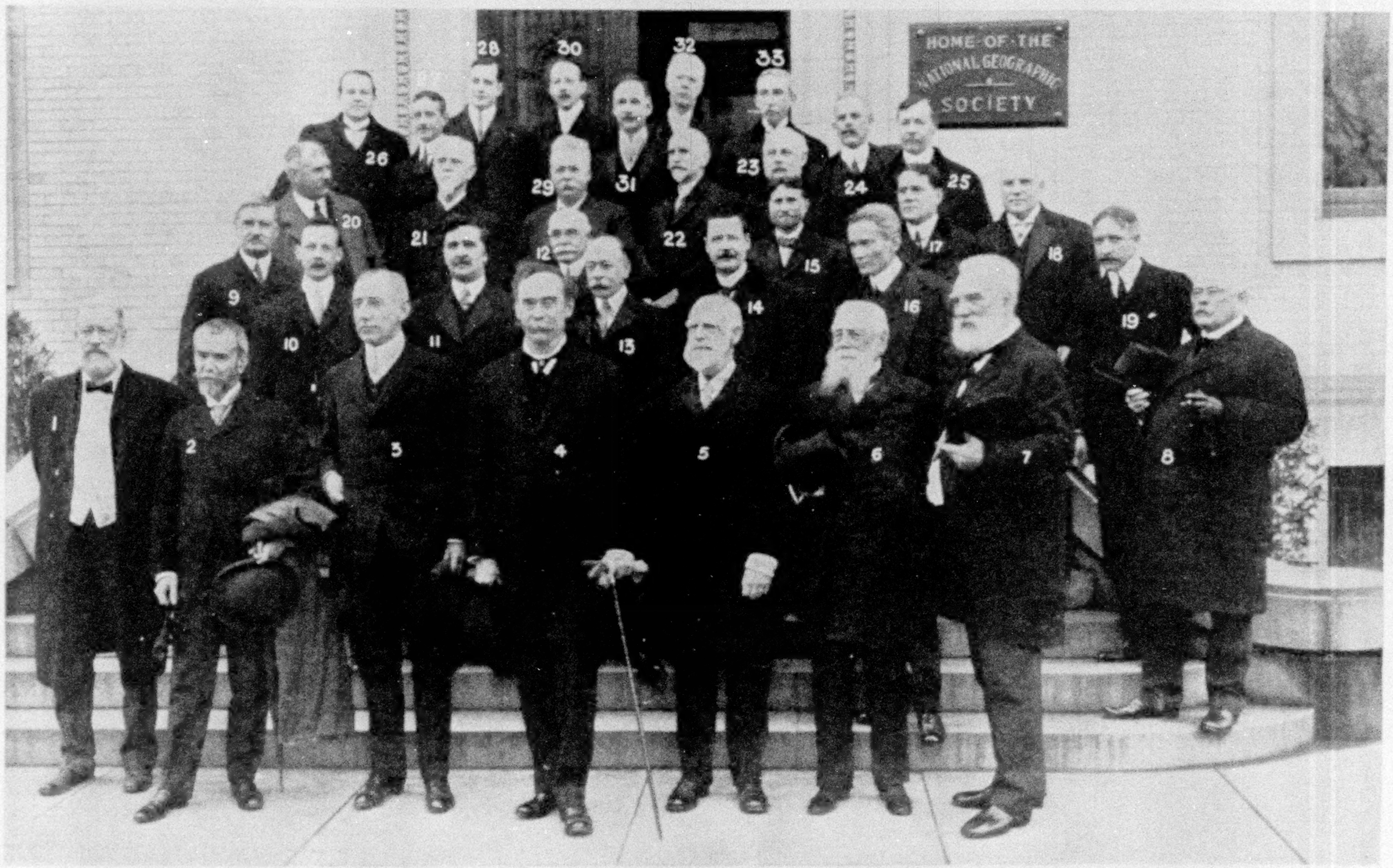
A REAL "MODEL PLANT"

"I wish to extend my heartiest congratulations to the National Geographic Society, of which I am proud to be a member, on the completion of its new home. Before the erection of our new building in Cincinnati I made many trips to so-called 'model' plants throughout the country in search of ideas, and I want to say that I have yet to see a large office force more admirably housed than that of the Society.

"I was particularly impressed with the foresight of those who planned the building, in the matter of utilizing the natural light and providing for the last word in hygienic surroundings. There is not a dark corner in the building, and the ventilation system is perfect.

"That the present and future requirements of the Society were kept clearly in mind while the building was being planned is shown by the wonderful facilities throughout for the expeditious handling of the Society's business, particularly that pertaining to the issuance of the NATIONAL GEOGRAPHIC MAGAZINE. Your equipment for taking care of incoming mail is the most complete I have ever seen, and nothing has been left undone to expedite the work of each department.

"One feature of your system in particular impressed itself upon my mind as a model for all business concerns — I



OFFICERS AND MEMBERS OF THE NATIONAL GEOGRAPHIC SOCIETY

The first meeting of Robert E. Peary, discoverer of the North Pole (4), and Roald Amundsen, discoverer of the South Pole (3), at the home of the National Geographic Society, January 11, 1913. The other members in the group include J. J. Jusserand, the French Ambassador (2); Viscount Bryce, then Ambassador from Great Britain (5); George W. Wickersham, at that time the Attorney General (13); the Minister from Norway (14); Hiram Bingham, leader of the Yale-National Geographic Society Expedition to Peru (16). Officers and Board of Managers of the National Geographic Society: President, Henry Gannett (1); Col. Henry F. Blount (6); Dr. Alexander Graham Bell (7); Mr. John Joy Edson, Treasurer (8); Rear Admiral John E. Pillsbury (9); Gilbert H. Grosvenor, Director and Editor National Geographic Society (10); George Otis Smith, Director U. S. Geological Survey (11); Rear Admiral C. M. Chester (12); O. H. Tittmann, Vice-President, and Supt. U. S. Coast and Geodetic Survey (22); L. A. Bauer, Director Department of Terrestrial Magnetism, Carnegie Institution (15); Franklin K. Lane, now Secretary of the Interior (18); Rudolph Kauffmann, Managing Editor, Washington *Evening Star* (20); Brigadier General John M. Wilson, former Chief of Engineers, U. S. A. (21); C. Hart Merriam (29); Charles J. Bell, President American Security and Trust Co. (23); David Fairchild, Agricultural Explorer (24); George Shiras, 3d, former member of Congress and wild-game photographer (25); John Oliver La Gorce, Associate Editor, NATIONAL GEOGRAPHIC MAGAZINE (26); George R. Putnam, U. S. Commissioner of Lighthouses (27); Frederick B. Eichelberger, Assistant Treasurer, National Geographic Society (28); Frederick V. Coville, President Washington Academy of Sciences (31); Dr. S. N. D. North (32); T. L. Macdonald, M. D. (33); Edwin P. Grosvenor, Special Assistant to the Attorney General, member of firm of Cadwalader, Wickersham & Taft (30); Peter Stuyvesant Pillot (17), and Julien A. Ripley (19), of New York.

mean that your business for each day is complete in itself, and a trial balance struck before that day's books are closed. The prompt service received by your members through this system is an important factor in the wonderful growth the Society has enjoyed.

"Your new building adjoining Hubbard Memorial Hall will be a standing monument to represent the good work carried on by the Society."

The style of architecture of the new building is Italian Renaissance, and the material white brick, trimmed with white limestone, making it harmonize in every detail with the Hubbard Memorial Hall, with which it is connected by passages in the basement and in the first two stories. The hallway is paved with white and green marble, while the walls are of rich but plain Italian Batticino marble, which gives a pleasing effect to the eye. The first floor is the only one that covers the entire space of the lot; in the upper stories one-third of the space is occupied by a 20-foot air shaft, inclosed on only three sides. The result is that there is not a dark corner in the entire building, making it lighter on dark days than most modern office buildings are when the sun is shining.

THE SEVERAL DEPARTMENTS

The first floor of the new building is devoted to the reception offices, the office of the Assistant Secretary, and the addressing and mailing rooms. The second floor is occupied by the correspondence department, which receives and answers upward of a thousand letters on the average day. The third floor is devoted to the editorial department.

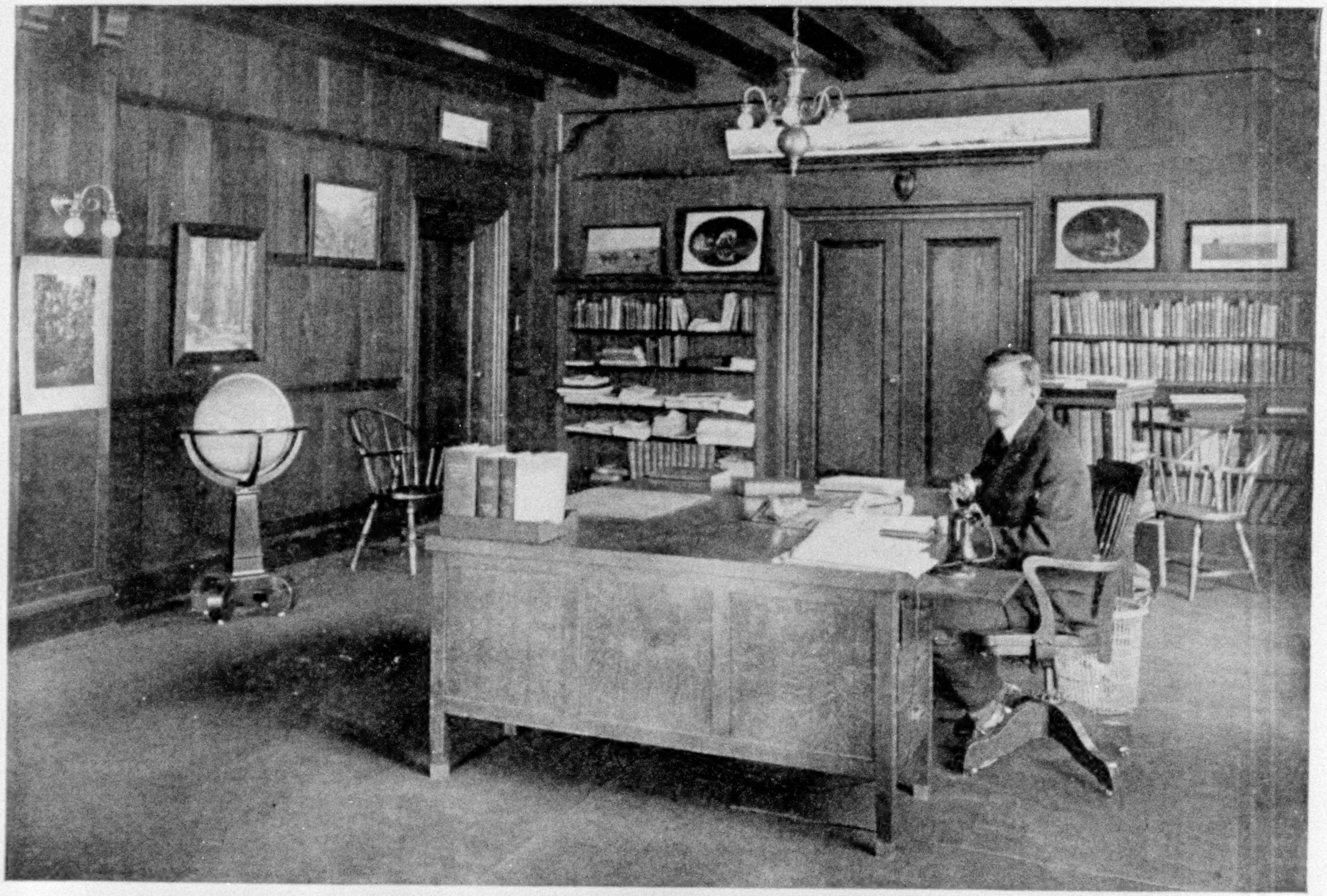
The office of the Director and Editor consists of two rooms, paneled from top to bottom in dark cypress, with an ornamental beamed ceiling. Next to these is the office of the Associate Editor, paneled throughout with Georgia pine. The general editorial room is a spacious one, with perhaps 350 square feet of window space. In this room is the large fireproof vault used for storing the thousands of photographs which have come from all parts of the world, constituting what probably is the greatest collection of geographic pictures to be found anywhere. On the fourth floor the accounting department has its quarters. The remainder of that floor is taken up by the kitchen and employees' dining-room.

With the new building occupied by the business and editorial activities of the Society, it is now possible to devote Hubbard Memorial Hall to its scientific activities. The rooms on the ground floor of this building are used for the meetings of the Board of Managers, the Research Committee, and such other committees of the Society as have occasion to meet for conference. The upper story is given over to the library and an exhibition hall. The library has been renovated and its small but valuable collection of books recatalogued and rearranged.

THE SOCIETY'S WORK

The Society encourages exploration and geographic research by means of such financial grants as its resources will permit. In coöperation with Yale University, it has recently maintained a large expedition in Peru, making geographical, geological, and archeological investigations around Cuzco, in a region which is generally believed to have been the birthplace of the famous and little-known Inca race. It also had an expedition in Alaska investigating the recent eruption of Mt. Katmai, this study being preliminary to a comprehensive investigation of what is perhaps the most stupendous volcanic belt on the earth. The Society has just concluded a series of investigations, extending over three years, of the glaciers of Alaska, one of the most important fields of geographical research in America.

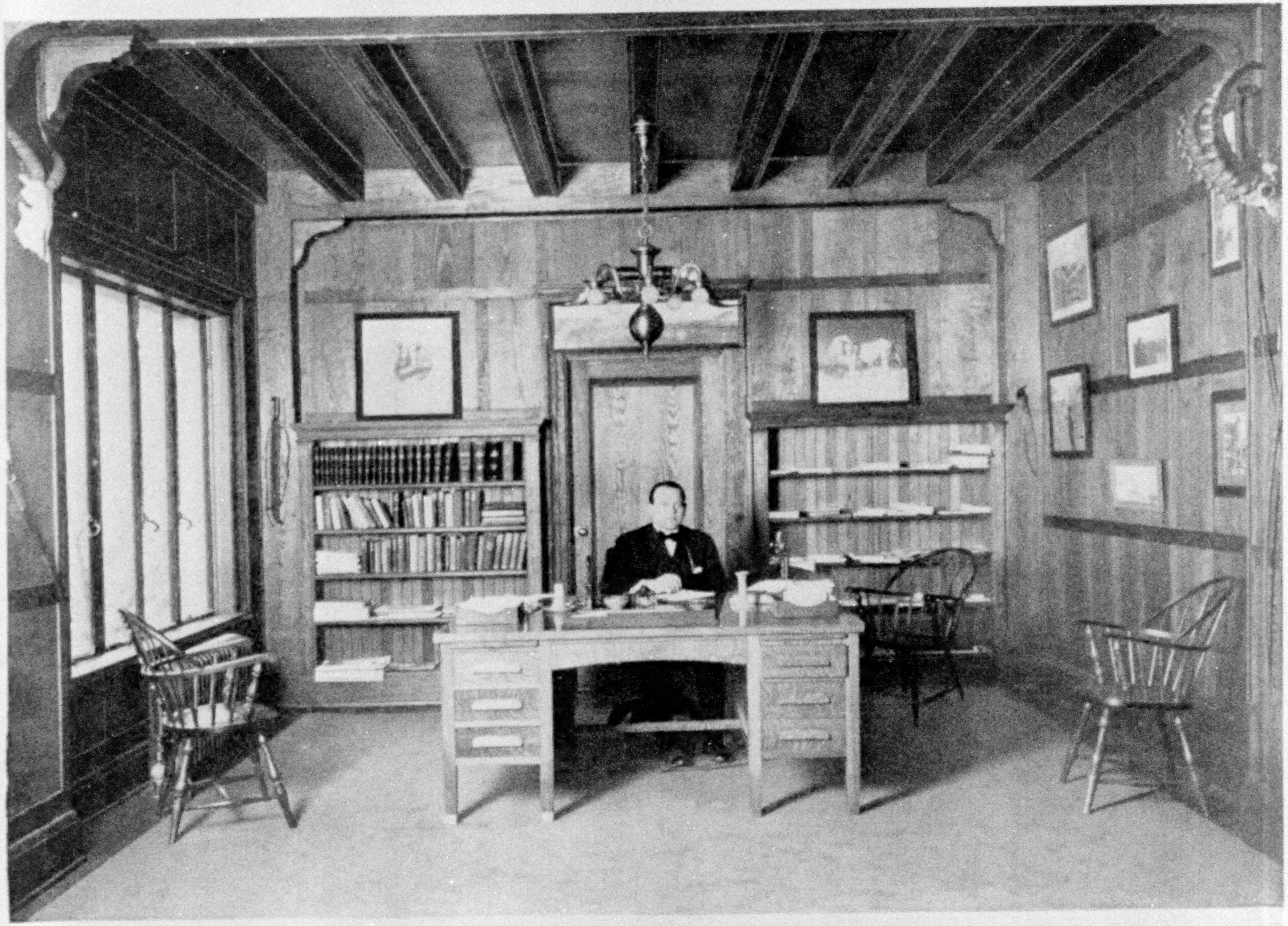
Its earlier expeditions to Alaska did much pioneer work in the exploration of that territory. In 1902 the Society sent an expedition to Mount Pelée and La Soufrière to study the terrible eruptions of these volcanoes. The Society has assisted various Arctic expeditions, notably the last expedition of Robert E. Peary, which discovered the North Pole, April 6, 1909. In 1909 it sent to Sicily a trained geologist to investigate the Messina earthquake. A popular account of



THE PRIVATE OFFICE OF GILBERT H. GROSVENOR, THE EDITOR OF THE NATIONAL GEOGRAPHIC MAGAZINE AND THE DIRECTOR OF THE NATIONAL GEOGRAPHIC SOCIETY

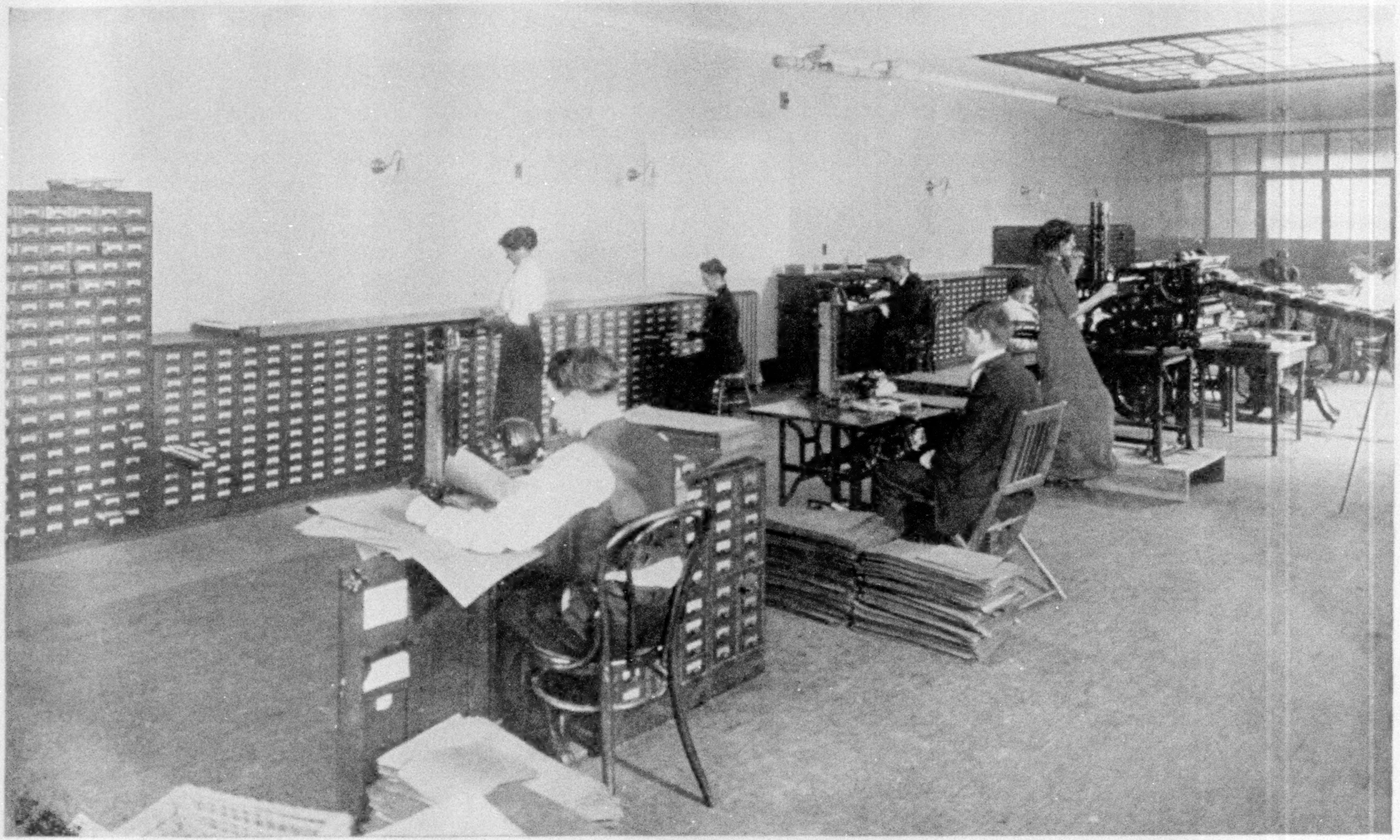
Mr. Grosvenor's beautiful office is paneled in cypress, with rafter ceiling, and finished in soft brown tones throughout. The room is quite a contrast to the quarters occupied by the Society when Mr. Grosvenor was appointed, April, 1899, to develop the Magazine and Society. At that time, 15 years ago, the National Geographic Society shared a small room, 10 x 14 feet, with another scientific organization, and had not sufficient income, with its membership of 900, to provide him with clerical assistance. Then the Editor could carry the entire edition of one month on his back; today one month's edition makes a pile two miles high, and the ink used for printing a single issue is more than ten men can carry.

XUM



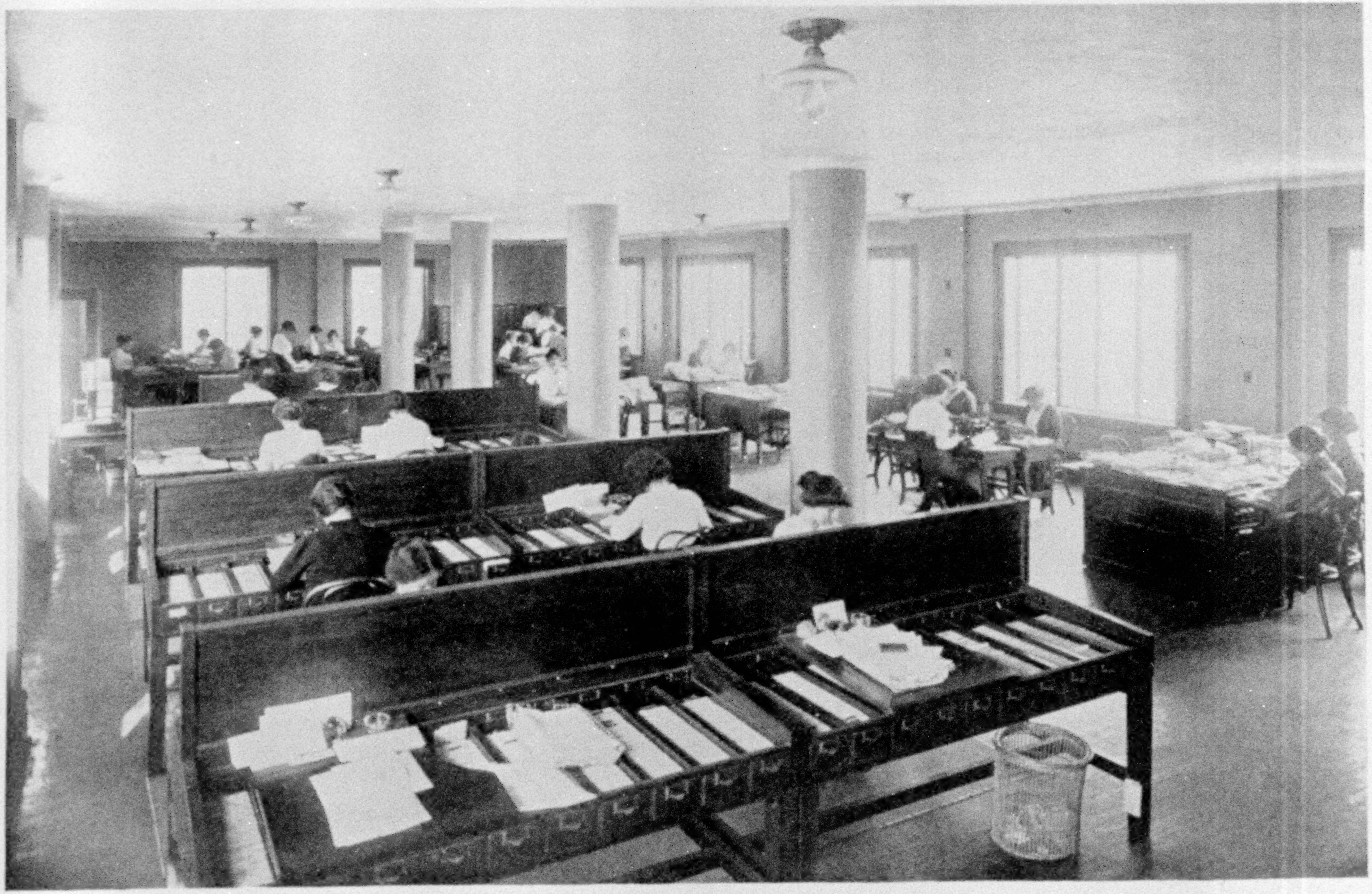
OFFICE OF JOHN OLIVER LA GORCE, THE ASSOCIATE EDITOR

This office, which adjoins that of the Editor, is paneled and raftered in Georgia pine, showing the natural grain



A CORNER OF THE MAIL-ROOM ON THE FIRST FLOOR OF THE SOCIETY'S NEW BUILDING

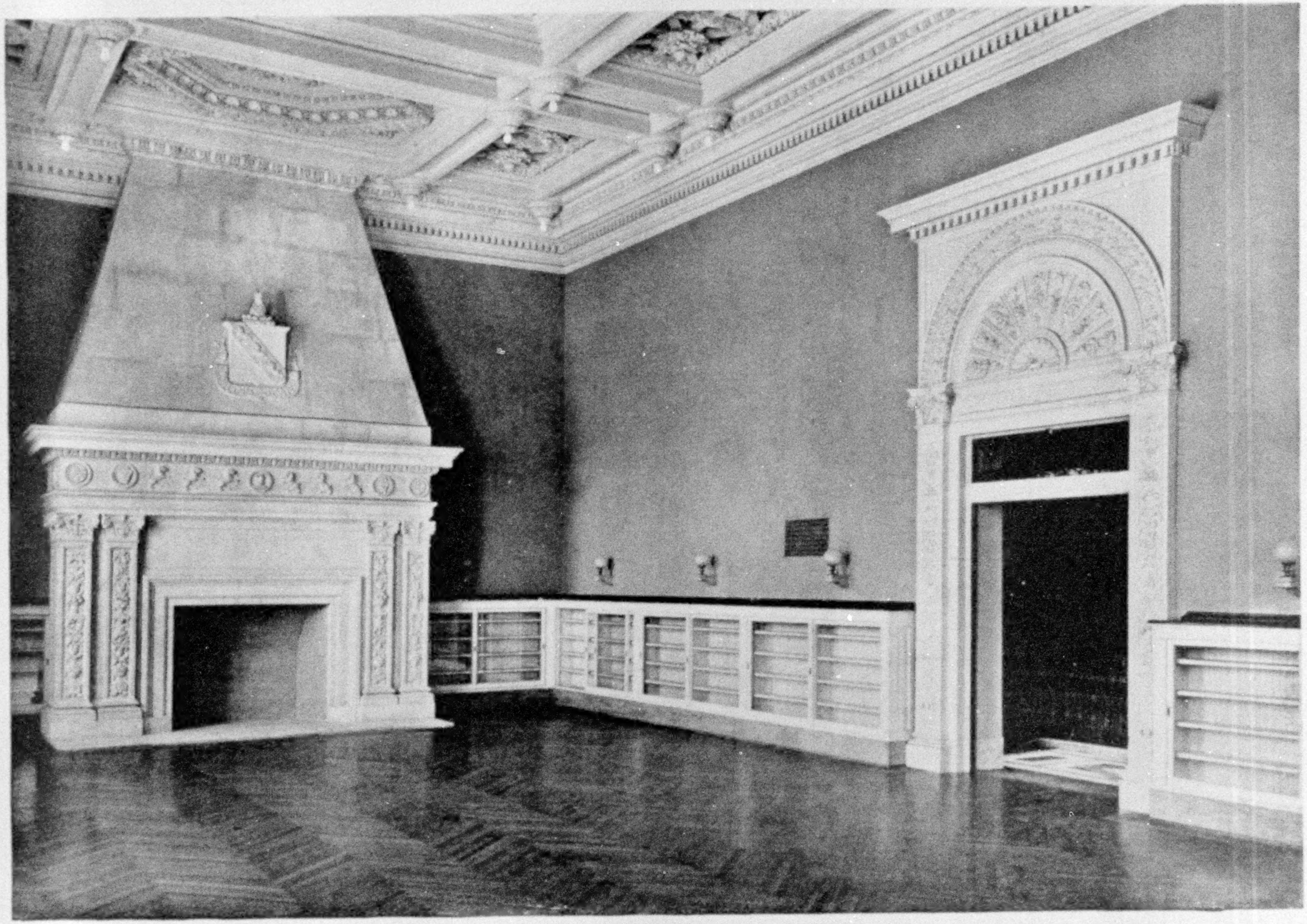
Here are filed the 300,000 addressograph stencils from which the monthly magazine wrappers are printed. The motor-driven machines in the foreground automatically address the wrappers. There is not a dark corner in the entire building



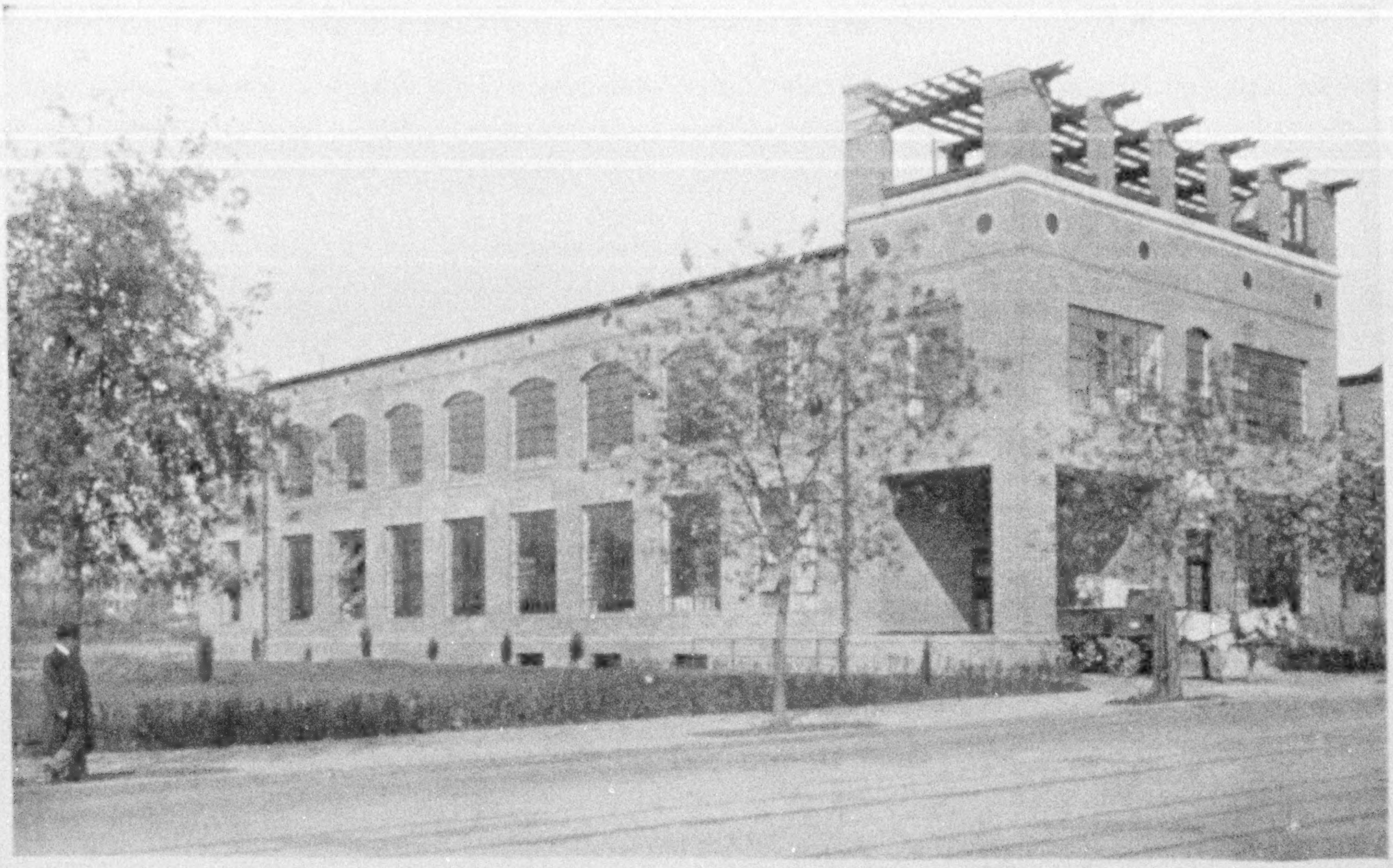
ONE SECTION OF THE INDEX DEPARTMENT: FOURTH FLOOR, NEW ADMINISTRATION BUILDING

Here the 300,000 membership cards, with duplicate sets, which are in constant use, are filed. The tables were especially designed to facilitate the rapid handling of file cards. The first consideration in the building plans was the utilization of natural light, perfect sanitation, and plenty of fresh air in all departments.

XUM



A CORNER OF HUBBARD MEMORIAL HALL



WHERE THE NATIONAL GEOGRAPHIC MAGAZINE IS PRINTED

This new building of Judd & Detweiler, Inc., who have printed the Magazine of the National Geographic Society since 1888, has just been erected by them for the exclusive use of the NATIONAL GEOGRAPHIC MAGAZINE.

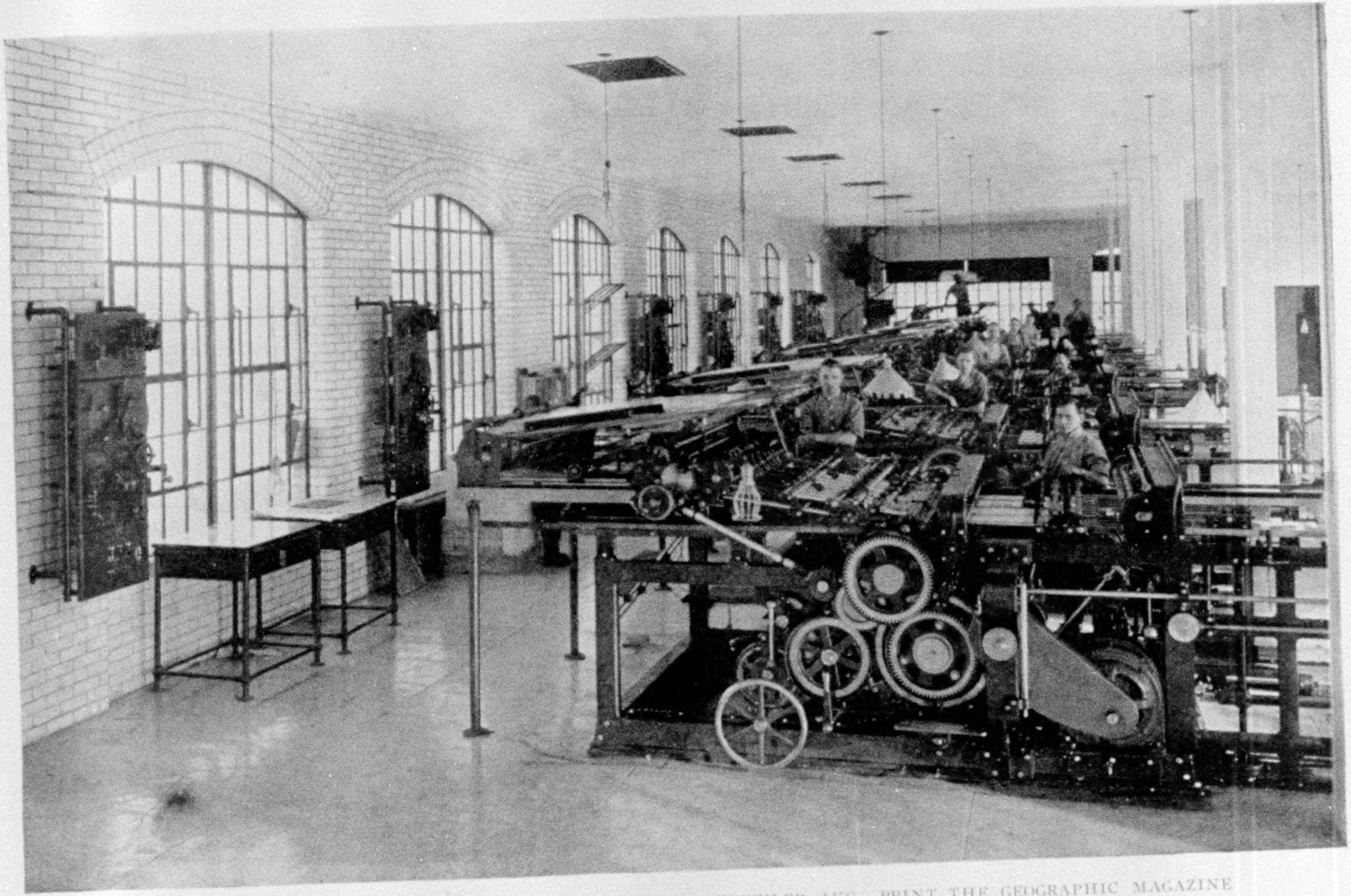
all expeditions is printed in the Magazine, while the technical results appear in separate monographs published by the Society.

ALL KINDS OF QUESTIONS

The correspondence of the National Geographic Society indicates the remarkable range of interest of its members. Here is a letter from a man wanting to know who publishes the best bathymetrical chart; here another inquiring as to the measures of the arcs of parallel south of the Equator; a third asks for precise information upon the rate of movement of glaciers. A New York lawyer has a case in which the crucial events take place in a town with an unpronounceable name in South America; his office atlas and the public library gazetteer alike fail to disclose its location. In despair he writes to the National Geographic Society, and by return mail is put in possession of the town's precise location, with details of the easiest way to reach it. A merchant, called on business to the west coast of South Africa, writes to know what precautions will be necessary to maintain his health and what kind of clothing he should take along. Here is a letter from a man who wonders where gum arabic comes from; another wants to know the height of Mt. McKinley; another seeks to ascertain why afforestation promotes rainfall; another asks the Society why the twilight period in the tropics is so short. All of these hundreds of inquiries must be answered, although some of them require much patient investigation.

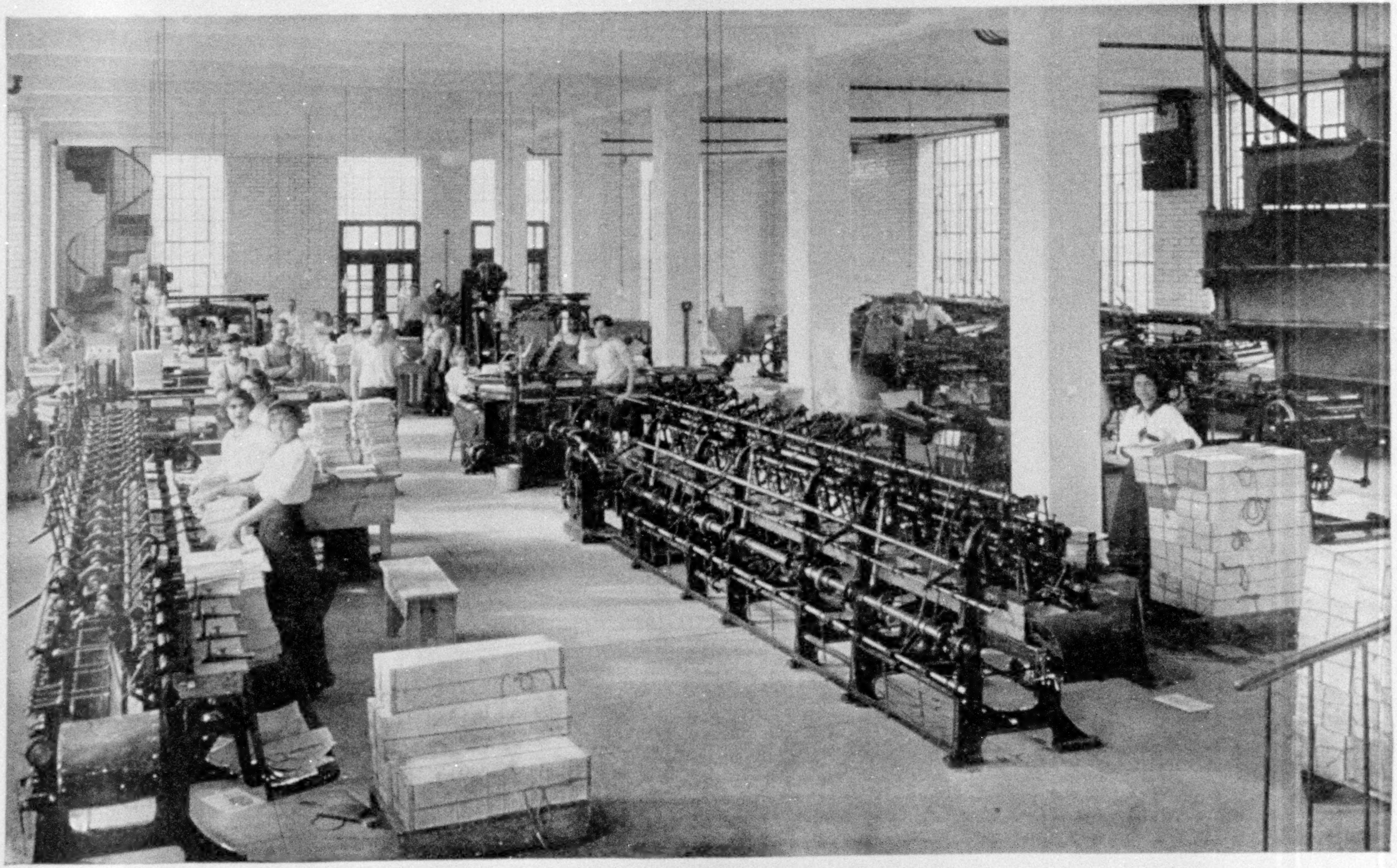
The Magazine receives hundreds of comments and suggestions from the members each month. Many of these are helpful and all encouraging. Some of them express so admirably the objects of the GEOGRAPHIC MAGAZINE that several are printed in part below.

"An odd thing happened the other day. I stopped by the public library to get something to take home to read, and decided to take home three of the back numbers of your Magazine. I was intensely interested in them.



THE BATTERY OF EIGHT PRESSES ON WHICH JUDD & DETWEILER, INC., PRINT THE GEOGRAPHIC MAGAZINE

Upon this modern type of very rapid rotary presses the Magazine is printed. In the erection of their new plant, Mr. George H. Judd, President of Judd & Detweiler, Inc., left nothing undone to provide for their employees the maximum of light, air, and pleasant surroundings, and their establishment is considered a model one. Each issue of the National Geographic Magazine requires twelve carloads of paper.



A CORNER OF THE BINDERY DEPARTMENT OF JUDD & DETWEILER, INC., WHO PRINT THE GEOGRAPHIC MAGAZINE

After being printed on other floors, the many 16-page sections of which the magazine is made up are sent here, where they are automatically gathered together by the machines in the foreground, fastened with wire staples, and the covers are also attached by machines. The completed copies are then trimmed and bound in bundles, as seen in the picture, and allowed to remain under pressure for a time, so that the glue may properly set.

"Last night I got so absorbed in reading about that lost city in Peru that I let my fire go out and sat up reading about it till 11 o'clock in the cold. Valuable? Why it is the most valuable thing I have seen in a long time, and a copy of this Magazine ought to be in every school in the United States. As a former school teacher, I see possibilities of instruction and entertainment for the scholars such as I have never seen before. Then, too, the pictures of living things in our back yards is simply wonderful. You will get my hearty coöperation in putting this Magazine before the people, and especially the younger ones. Many of us think in pictures, and most all young people do so, and one of these pictures is more impressive than a dozen pages of scientific explanation.

"A great many people who go into the fields and woods with unseeing eyes can be awakened to the wonderful things all about us and get a vast amount of knowledge in a very direct and lasting way.

"This venture in the Magazine line is simply splendid, splendid, and deserves the help and push of every father and mother, as well as of the educators."

"I cannot see how I should teach geography without this Magazine, and the children look for its coming with eagerness. They love it because they know that what they see is *truth* and not an artist's fancy."

"Through the Magazine I have become an accomplished traveler, am familiar with the wonders of our own country and the strange, out-of-the-way places of the earth, and have taken these perfectly fascinating journeys without discomfort and without expense."

"It does not seem possible to supply such a Magazine to members, considering the small amount of the annual dues."

"I want to say that your conception of popularizing geographic study and the sciences that relate to the earth and its people generally is proving one of the most helpful influences that have come under my observation. I am sure it is proving a vast benefit to our generation."

The Membership of the National Geographic Society in the Various States, Territories, and Insular Possessions.

State	Rank in population	Members
New York	1	53,391
Pennsylvania	2	26,562
Massachusetts	6	25,310
California	12	24,125
Illinois	3	22,085
Ohio	4	12,901
New Jersey	11	10,824
Connecticut	32	7,806
Missouri	7	7,054
Michigan	8	6,759
Minnesota	10	5,992
Wisconsin	13	4,714
Indiana	9	4,574
District of Columbia	44	4,080
Washington	30	4,477
Colorado	33	4,425
Iowa	15	4,129
Maryland	27	3,960
Maine	35	2,944
Texas	5	2,674
Kentucky	14	2,629
Montana	41	2,500
Virginia	20	2,336
Kansas	22	2,270
Rhode Island	39	2,200
Oregon	36	2,090
Georgia	10	1,835
Tennessee	17	1,812
New Hampshire	40	1,752
Florida	34	1,742
Vermont	43	1,600
West Virginia	28	1,592
Nebraska	29	1,346
North Carolina	16	1,309
Louisiana	24	1,188
Utah	42	1,090
Idaho	46	1,056
Oklahoma	23	990
Alabama	18	976
South Dakota	37	976
Arizona	47	937
North Dakota	38	925
South Carolina	26	929
Delaware	48	858
Arkansas	25	820
Mississippi	21	752
New Mexico	45	726
Wyoming	50	594
Nevada	51	555
Alaska		372
Guam		9
Hawaii		623
Panama (Canal Zone)		382
Philippine Islands		584
Porto Rico		204
Samoa		3
		281,556

Table Showing Membership of the National Geographic Society in Proportion to the Population of Each State.

District of Columbia	1	member to every	97	of the population
California	1	" "	98	" "
Massachusetts	1	" "	132	" "
Connecticut	1	" "	141	" "
Nevada	1	" "	147	" "
Montana	1	" "	150	" "
New York	1	" "	170	" "
Colorado	1	" "	180	" "
Arizona	1	" "	218	" "
Vermont	1	" "	222	" "
New Jersey	1	" "	234	" "
Delaware	1	" "	235	" "
Wyoming	1	" "	245	" "
New Hampshire	1	" "	245	" "
Rhode Island	1	" "	246	" "
Maine	1	" "	252	" "
Washington	1	" "	255	" "
Illinois	1	" "	255	" "
Pennsylvania	1	" "	288	" "
Idaho	1	" "	308	" "
Oregon	1	" "	320	" "
Maryland	1	" "	327	" "
Utah	1	" "	342	" "
Minnesota	1	" "	346	" "
Ohio	1	" "	367	" "
Michigan	1	" "	417	" "
Florida	1	" "	436	" "
New Mexico	1	" "	450	" "
Missouri	1	" "	465	" "
Wisconsin	1	" "	495	" "
Iowa	1	" "	538	" "
Indiana	1	" "	590	" "
North Dakota	1	" "	590	" "
South Dakota	1	" "	597	" "
Kansas	1	" "	744	" "
West Virginia	1	" "	765	" "
Kentucky	1	" "	871	" "
Virginia	1	" "	882	" "
Nebraska	1	" "	885	" "
Tennessee	1	" "	1,205	" "
Louisiana	1	" "	1,394	" "
Georgia	1	" "	1,421	" "
Texas	1	" "	1,457	" "
South Carolina	1	" "	1,636	" "
Oklahoma	1	" "	1,673	" "
North Carolina	1	" "	1,685	" "
Arkansas	1	" "	1,918	" "
Alabama	1	" "	2,188	" "
Mississippi	1	" "	2,388	" "

"I am very much interested in the Magazine, because it expresses more than any other the healthiest, happiest interest that one can know—NATURE."

"I feel that every adult (over 12 years) should read—and *see*—it every month. I am one of those people who believe that war might be made impossible by acquainting the peoples of the world with one another. Certainly, your splendid Magazine is one of the best means we have of telling the American people about their 'brothers across the seas.'"

Housed in its new building, with additional facilities for work in every one of its departments, with a rising tide of enthusiasm among its membership of 285,000, which is scattered among 15,200 post-offices in continental United States, 222 post-offices in the territories and insular possessions of the United States, and in 1,782 post-offices in the foreign countries of the world, the second quarter-century of the career of the National Geographic Society opens with a prospect without parallel in the history of geographic education.

Table Showing the Number of Towns and Post-offices in Each State and Territory in the United States where the National Geographic Society Has Members.

State	Number of towns and post-offices where the National Geographic Society has members
Alabama	146
Arizona	117
Arkansas	128
California	745
Colorado	264
Connecticut	289
Delaware	36
District of Columbia	1
Florida	254
Georgia	195
Idaho	156
Illinois	665
Indiana	364
Iowa	537
Kansas	366
Kentucky	204
Louisiana	153
Maine	306
Maryland	245
Massachusetts	614
Michigan	456
Minnesota	396
Mississippi	152
Missouri	360
Montana	198
Nebraska	325
Nevada	69
New Hampshire	224
New Jersey	459
New Mexico	125
New York	1,272
North Carolina	217
North Dakota	217
Ohio	639
Oklahoma	221
Oregon	217
Pennsylvania	1,113
Rhode Island	88
South Carolina	122
South Dakota	214
Tennessee	171
Texas	453
Utah	80
Vermont	193
Virginia	377
Washington	314
West Virginia	205
Wisconsin	378
Wyoming	91
Alaska	69
Guam	7
Hawaii	80
Panama (Canal Zone)	24
Philippine Islands	79
Porto Rico	31
Samoa	1
Total number of towns and post-offices in the United States where the National Geographic Society has members	15,422

Membership of the National Geographic Society in Foreign Countries.

Country	Membership	Towns
Africa	75	45
America, Central, and West Indies:		
Bahamas	8	5
Bermuda	24	9
British Honduras	3	2
Costa Rica	34	12
Cuba	284	51
Guatemala	31	5
Haiti	1	1
Honduras	16	11
Jamaica	25	14
Mexico	839	109
Nicaragua	10	6
Nevis	1	1
St. Kitts	1	1
Salvador	3	2
Santo Domingo	13	6
Trinidad	9	5
America, North:		
Canada	3,482	588
Newfoundland	24	8
America, South:		
Argentina	41	13
Bolivia	7	3
Brazil	55	14
Chile	38	14
Colombia	14	7
Ecuador	9	2
Falkland Islands	2	1
Peru	41	12
Uruguay	4	1
Venezuela	10	4
Asia:		
China	201	56
India	69	40
Japan	75	35
Korea	28	13
Persia	7	5
Turkey in Asia	38	15
Miscellaneous Asia	26	16
Australasia:		
Australia	56	15
New Zealand	31	16
South Sea Islands	8	8
Europe:		
Austria-Hungary	43	20
Belgium	22	7
Bulgaria	8	3
Denmark	29	9
Finland	5	4
France	195	36
Germany	286	107
Great Britain:		
England	847	177
Ireland	65	37
Scotland	100	55
Wales	8	7
Greece	3	2
Holland	22	17
Italy	94	28
Malta	1	1
Norway	36	14
Portugal	3	2
Rumania	4	1
Russia	30	13
Spain	32	14
Sweden	33	17
Switzerland	82	36
Turkey in Europe	20	4

Campbell's Soups
LOOK FOR THE RED-AND-WHITE LABEL
Campbell's
CONDENSED
TOMATO SOUP
JOSEPH CAMPBELL COMPANY
CAMDEN, N.J. U.S.A.

"Ah! Just what I want!"

And he knows this—knows how deliciously good it is—even before he tastes it. For its inviting *natural* color and spicy aroma are all a part of the pleasing quality of

Campbell's Tomato Soup

And this tempting promise is made good by an appetizing flavor and complete wholesomeness which make it the most satisfying tomato soup ever produced.

Try it for dinner and you will realize this yourself.

Money back if not satisfied.

21 kinds **10c a can**

Asparagus
Beef
Bouillon
Celery
Chicken
Chicken Gumbo (Okra)
Clam Bouillon
Clam Chowder
Consommé
Julienne
Mock Turtle
Mulligatawny
Mutton Broth
Ox Tail
Pea
Pepper Pot
Printanier
Tomato
Tomato-Okra
Vegetable
Vermicelli-Tomato

PREFERRED!

Women who look for beauty—women who demand simplicity—alike choose the Ohio Electric

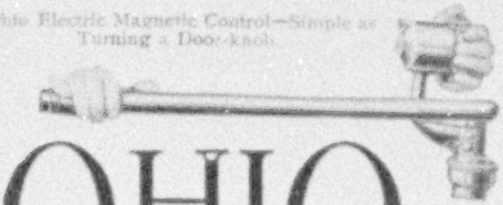
The exclusive magnetic control and magnetic brake of the Ohio Electric have eliminated all the effort and worry of driving, and left nothing but the pleasure.

And the 1914 models of the Ohio, with sashless glass all around, extra wide doors, disappearing front window and many other refinements are, we believe, the most beautiful pleasure vehicles ever produced. *Literature on request.*

The Ohio Electric Car Co., 1527 Bancroft St., Toledo, Ohio

Gibson Electrics, Ltd. Ontario Distributors Toronto, Canada

Ohio Electric Magnetic Control—Simple as Turning a Door-knob



OHIO
THE ENVIED
ELECTRIC

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PADEREWSKI

The Victrola gives everybody the kind of music they like best

Its mission is to bring to you the best music of every kind—and just as it presents to you the beautiful voices of the world's greatest opera stars and the superb art of the most celebrated instrumentalists, so in the lighter forms of music it offers you entertainment by the most noted talent.

With a Victrola you can change at will from the classical to the mirth-provoking—one moment you are in fancy transported to the Metropolitan Opera House and hear Caruso and other famous artists, the next you can be in any of the myriad of theatres along Broadway listening to the "song hits" of the latest musical successes.

And as you sit and enjoy all this wonderful variety of music on the Victrola, your enjoyment is all the greater because of the knowledge that the music you are hearing, you can hear again and again, whenever, and as often as you wish.

There are Victors and Victrolas in great variety of styles from $10 to $200, and any Victor dealer will gladly demonstrate them and play any music you wish to hear.

Victor Talking Machine Co., Camden, N. J., U. S. A.

Berliner Gramophone Co., Montreal, Canadian Distributors

Victor

"HIS MASTER'S VOICE"

Photo White

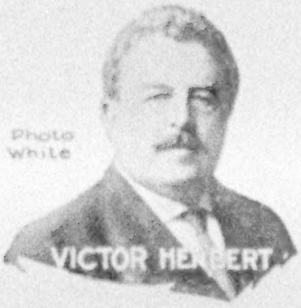


Photo White

CHRISTIE MᶜDONALD

New Victor Records demonstrated at all dealers on the 28th of each month

Tire Words—
Tire Deeds

THE guarantee that these tires will not skid on wet or greasy pavements—else returnable at full purchase price, after reasonable trial—is based on complete and positive, not partial and doubtful, non-skid efficiency.

PENNSYLVANIA Oilproof VACUUM CUP TIRES

The further guarantee of 4,500 miles actual service is for the user's protection only. It is based on years of experience proving this mileage to be a low minimum. There is involved no *expectation* of adjustment, as the average mileage is far greater, there being numerous records of over 12,000 miles on heavy cars.

The guarantee of absolutely oilproof quality still more definitely fixes Vacuum Cup Tires in a place entirely apart—in every consideration of safety and service.

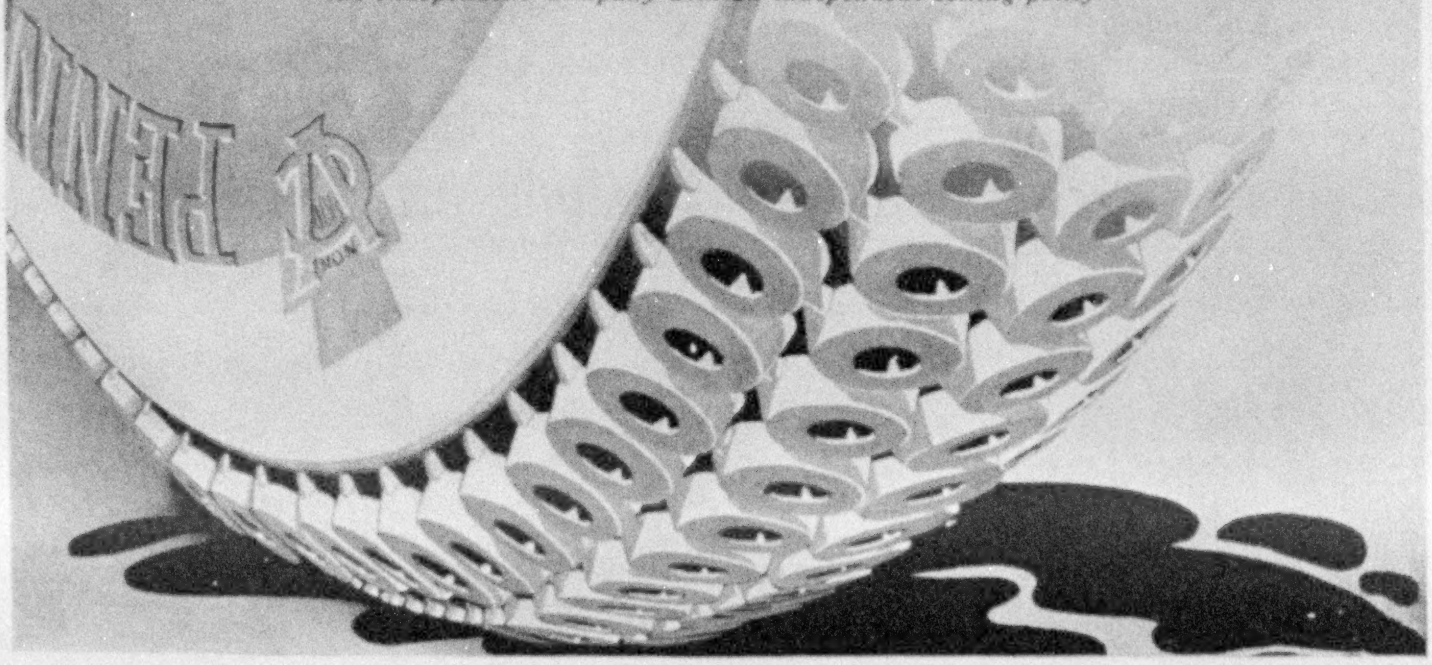
Start the season with this matchless tire equipment.

Dealers Everywhere

Pennsylvania Rubber Co. **Jeannette, Pa.**

New York, Chicago, Cleveland, Boston, Pittsburgh, San Francisco, Los Angeles, Detroit, St. Paul, Minneapolis, Omaha, Kansas City, Mo., Seattle, Dallas, Atlanta

An Independent Company with an independent selling policy



The Wanted Six

Has Come—a Quality Six to Sell at $1750

Light, Handsome, More Economical than Fours

This is the latest from Howard E. Coffin, the great HUDSON engineer.

The man who built the first high-grade Four to sell under $3000. Then the first to sell under $2000. Then the HUDSON Six-54—the first quality Six to sell under $3000.

Now he comes out with the HUDSON Six-40—the first high-grade Six below $2000—the most talked-about car of the year.

But Price Isn't All

In this Six he employs a small-bore, long-stroke motor. It consumes far less fuel than any equal-powered Four.

And the car underweighs any comparable Four. Many Fours in this class weigh 40 per cent more.

It weighs 400 pounds less than last year's HUDSON "37"—it consumes one-fourth less fuel. Yet this is a Six, with 123-inch wheel base and two disappearing extra tonneau seats.

New
HUDSON
SIXES
Six-40—$1750
Six-54—$2250
f. o. b. Detroit

Now Legions Can Own Sixes

The Six of the past has been high-priced, heavy, wasteful. The costly cars have long been Sixes. But the man who wanted modest price and weight, modest operative cost, has been confined to Fours.

Now comes a Six—a high-grade Six—which underbids Fours in all these particulars. And the thousands of men who buy cars in this class can enjoy the six-cylinder luxury.

The smooth-running Six, with its flexibility, its lack of vibration, its overlapping strokes, its tire economy, enters a new and enormous field.

New Ideals in Beauty

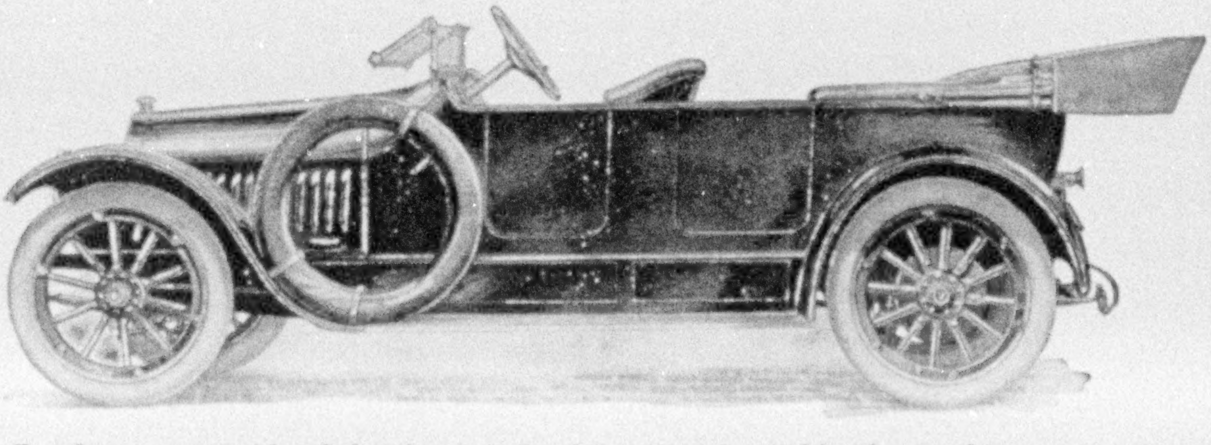
This HUDSON Six-40 also shows—in countless ways—new ideals in beauty and equipment. It has the streamline body, the coming type. It has hand-buffed leather upholstery. It has the convenient new "One-Man" top with quick-adjusting curtains attached.

Gasoline tank is in dash. Tires are carried ahead of the front door. All hinges are concealed. The speedometer gear is concealed. There are two disappearing extra tonneau seats.

The design and equipment are almost identical with the new HUDSON Six-54. And that is considered the handsomest car of the year.

This Six-40 is the most popular HUDSON car ever brought out. The factory is now far behind on its orders. You may want this car, and want early delivery. So we urge you to go now and see it.

54 of the 79 Automobile exhibitors at the 14th National Automobile Show, held in New York Jan. 3 to 10, this year, displayed six-cylinder cars. Eighteen showed Sixes exclusively. That emphasizes the dominance of Sixes.



Also Roadster type. Also Cabriolet completely enclosed, quickly changeable to open Roadster

HUDSON MOTOR CAR COMPANY, 7581 JEFFERSON AVENUE,
DETROIT, MICHIGAN

New Speed in Billing

This mechanism saves your bookkeeper's time
It foots your bills *as fast as they are typed*

Here is the latest Remington achievement in time-saving—an easy-running typewriter with a head for figures.

It relieves your bookkeeper of school-boy addition and subtraction. It frees him for more important duties. It compels accuracy.

* * * *

Suppose you have the machine before you.

Press the numeral keys.

Look!

Each type stroke does double duty. *You will see the amounts not only typed, but added.* The two acts are simultaneous.

Your discounts are subtracted mechanically with equal ease.

Without a single interruption for addition or subtraction, your bills are ready to mail.

From this time forward stopping to foot bills and statements or check totals will be sheer waste of clerical time.

Your totals, once entered, are as correct as though certified by an expert accountant.

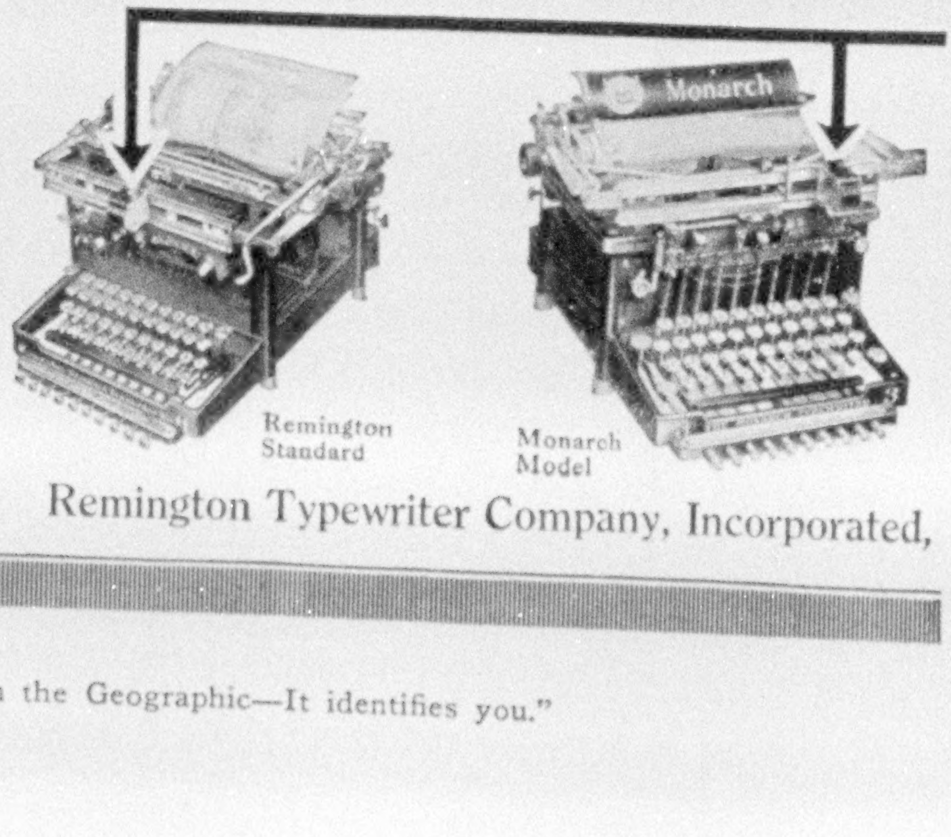
After turning out a batch of bills your typist may wish to typewrite letters.

Very well! Switch a lever. She has a complete, fully-equipped Remington Typewriter.

Every business purpose which calls for writing and adding on the same page calls for this latest Remington time-saver.

* * * *

If you have a large business you can use several of these time-savers. If you have a small business, *one* will effect a quick saving in billing and charging.



Remington Typewriter Company, Incorporated,

The initial cost is soon wiped out. The more work you give the Remington Adding and Subtracting Typewriter the quicker it pays for itself.

Your present typist can start using it tomorrow. By night she will be saving you time and money.

* * * *

The Remington Adding and Subtracting Typewriter is now used constantly by the United States Sub-Treasury, Banks, Railroads, Life Insurance Companies, retailers, manufacturers, and many other businesses, large and small.

It is good for many years of "heavy days" work.

* * * *

Sooner or later you will write and foot your bills simultaneously.

You can't begin too soon. Delay simply means more time-waste and error-risk in your office.

Write today to our New York office for booklet, "The New Remington Idea," which describes this remarkable machine in detail.

REMINGTON
Adding and Subtracting
TYPEWRITER

(WAHL MECHANISM)

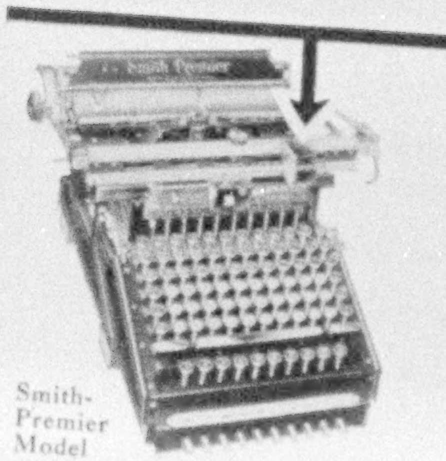
The Remington Adding and Subtracting Typewriter can be had in any of the Remington Models shown below.

Each is a member of the famous Remington family. Each is a complete easy-running typewriter, plus the adding and subtracting feature.

Each is designed and built so as to insure maximum durability.

Each has distinctive features designed to meet individual requirements.

Write today for booklet, "The New Remington Idea."

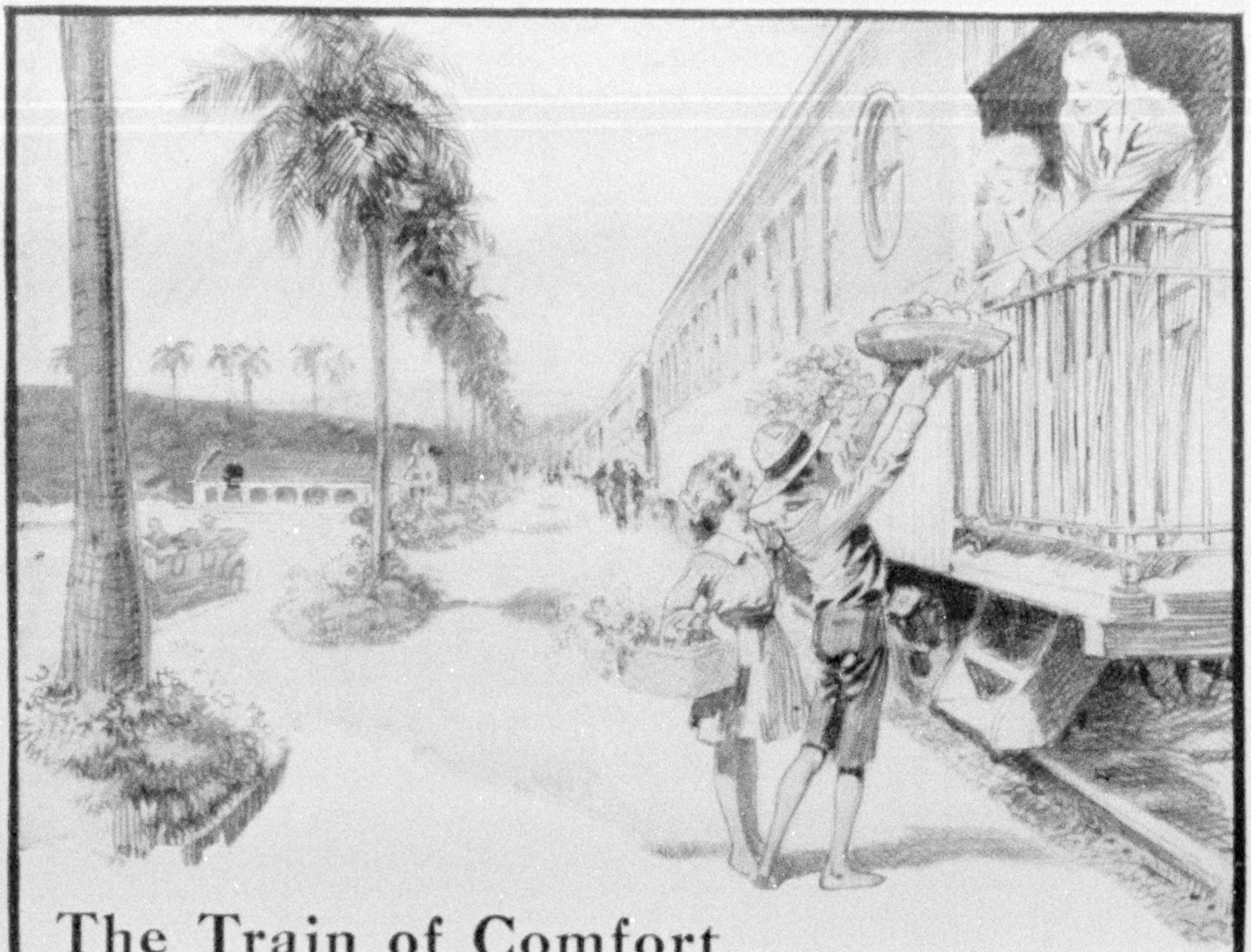


Smith-Premier Model

Your totals are shown here as fast as the figures are typed

For clear, clean typewriter results, use Remtico Brand letter paper, carbon paper, and ribbons. Write our New York office.

New York City (*Branches Everywhere*)



The Train of Comfort
Over the Road of Safety

"Sunset Limited"

Daily Between the Pacific Coast and New Orleans

Extra Comfort—Extra Safety—No Extra Fare

Going East or West, there's no train like the "SUNSET"—no road like the route it traverses. Superb all-Pullman equipment—through the wonderful scenery and historic charm of the great Southwest. Low altitudes, easy grades, summer climate all the way.

The Southern Pacific carried 204,000,000 passengers in the last five years without a single passenger fatality in a train accident. Millions have been expended to make it the safest road in the world.

Southern Pacific—Sunset Route

The Exposition Line—1915

Full information on request

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"Father built this house!"

Herringbone

Metal Lath

Your children—when they grow up—will they be proud of the "House that Father built?" Twenty years from now, will it be a modern, soundly built, valuable property?

The next generation won't tolerate inflammable houses. The next generation will laugh at a house that has to be constantly repaired. For the house of the future will be a permanent, dependable house. Almost as cheaply as with wood you can build that sort of a house *now*. Stucco houses are no longer luxuries.

Herringbone Metal Lath is the reason why you can have a dependable Stucco house if you want to. It provides the best method of construction.

Build with your eyes open. Let us explain to you this whole fireproof construction problem. It will be an immense help to your architect if *you* know what *he* is talking about. Tell us what sort of a building you are planning and we will mail invaluable books on the subject and give you any special help needed.

Also mention architect's name so we can co-operate through him.

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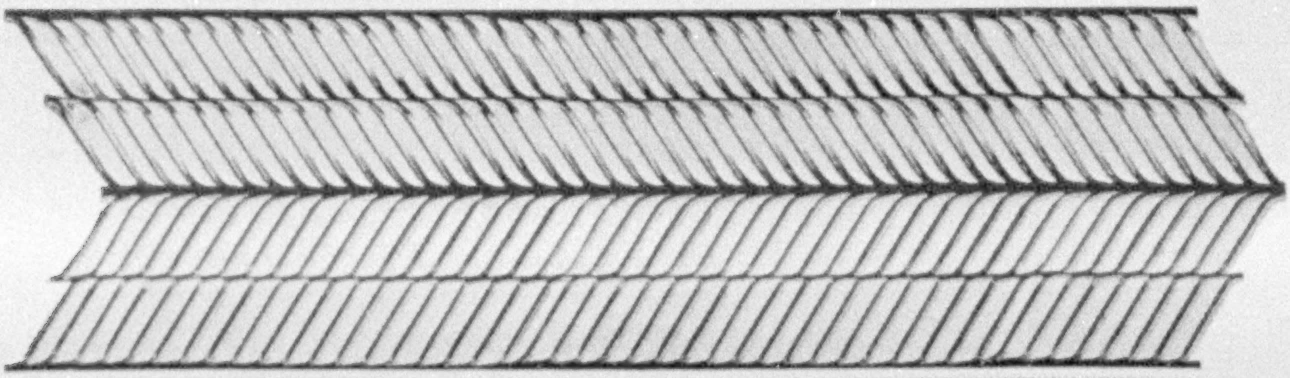
Also makers of Self-Sentering, the expanded metal that makes reinforced concrete without form.



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Independent Trips
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First Class Throughout

See the uttermost ends of the earth, strange and beautiful lands, curious and fascinating peoples. There is no better education. Europe, Mediterranean, Egypt, India, Ceylon, Java, China, Japan, Philippines, Australia, Hawaii. *Tickets good two years.* Start any time, any place, either direction; the price is the same.

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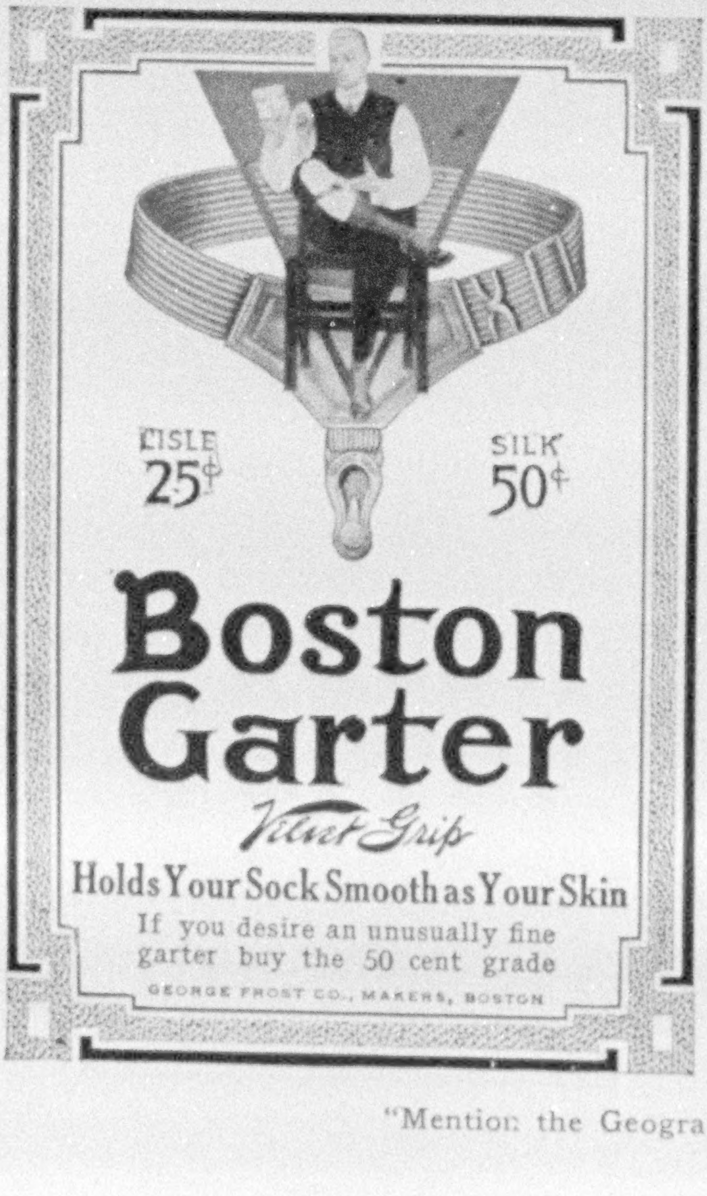

LISLE 25¢ SILK 50¢

Boston Garter

Velvet Grip

Holds Your Sock Smooth as Your Skin

If you desire an unusually fine garter buy the 50 cent grade

GEORGE FROST CO., MAKERS, BOSTON

Scene near Boston, Mass. Gypsy Moths stripped trees at right. Tree Tanglefoot protected these at left.

Millions of Trees Are Likewise Saved Each Year With TREE TANGLEFOOT

Will not injure trees. Easily applied with wooden paddle. One pound makes about 10 lineal feet of band. One application remains sticky 3 months and longer—outlasting 10 to 20 times any other substance. Works alike, rain or shine. Won't soften—won't run or melt, yet always elastic, expanding with growth of tree. No mixing—simply open can and use.

Band Trees About Two Weeks Before Insects Appear and Get Best Results

Especially recommended for Gypsy, Browntail and Tussock Caterpillars, Canker Worms, Climbing Cut Worms and Ants. Equally effective against any crawling insect on shade, fruit, or ornamental trees.

For Tree Surgery

Tree Tanglefoot is superior to anything on the market—it is better than grafting wax. It will waterproof the crotch of a tree or a cavity or wound in a tree where nothing else will do it.

Sold by All First-Class Seed Dealers

1-lb. cans	$ .30
3-lb. cans	.85
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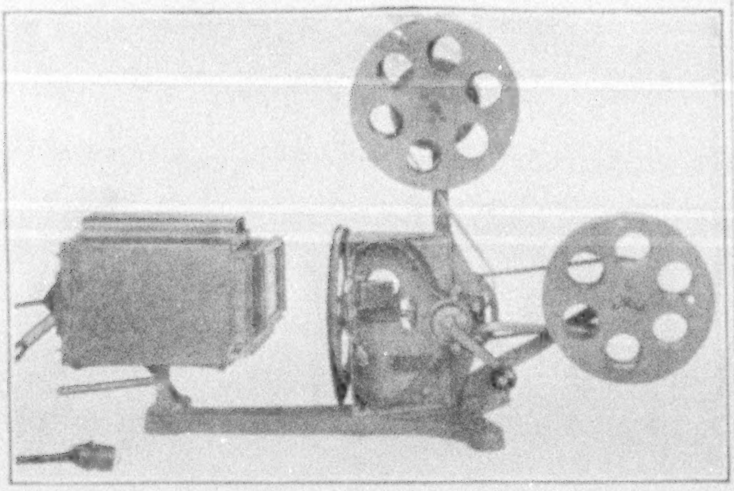
20-lb. cans	4.80

Write today for Illustrated Booklet on Leaf-eating Insects. Mailed Free.

THE O. & W. THUM COMPANY
Manufacturers of Tanglefoot Fly Paper and Tree Tanglefoot
320 Straight Avenue, Grand Rapids, Mich.



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Have you moving-picture film of your travels, your sports, your camp, or your children? With the Phantoscope you can project these pictures in your home, to the delight of your family and friends. The Phantoscope projects large, brilliant pictures, and is so simple children operate it. Catalogue for the asking.

Phantoscope, Complete, in Case, $100

We also sell cameras, or can send you a Motion Picture Photographer.

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BOUND VOLUMES of the Geographic should be in every home, school, and college library for study, reference, and the personal enjoyment of this storehouse of fascinating facts. Nowhere else can be found such a wealth of photographic reproduction, not only in black and white, but scores of pages of four- and eight-color work, photogravures, panoramas, and maps which vitalize the authoritative articles specially prepared by the foremost scientists, explorers, and travelers in the world.

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is this small, white golf ball. But whatever your eye can see at rest, you can photograph clearly, distinctly and in perfect proportion, if conditions make photography at all possible, with

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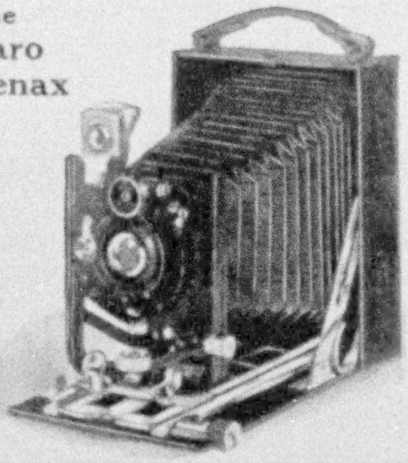
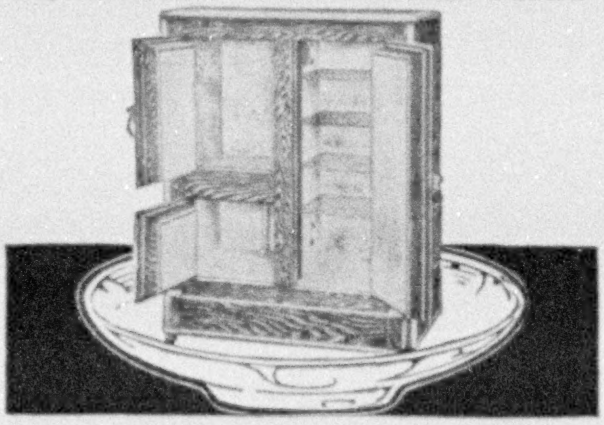
The Taro Tenax



Like a clean china dish



Superb Porcelain Lined—the delight of every woman's heart—the pride of every housekeeper. Here's that famous Refrigerator with the seamless, scratchless, dish-like lining, the genuine

Leonard Cleanable

Don't confuse this wonderful sanitary lining with paint or enamel. I will mail you—free—a sample of Leonard Porcelain that will quickly show you the difference You **can't scratch it even with a knife.** It's everlasting—easily kept beautifully sweet and clean. You'll never be satisfied with anything else. Can be arranged for outside icing and water cooler. Style shown is No. 4, in polished oak case. Size, 35 x 21 x 45 - - - - $35.00

50 Styles—$15 up—Freight Paid

To Ohio and Mississippi Rivers. I take the risk. Send for catalog today. Money returned if you are not perfectly satisfied. Ask for sample of porcelain and I'll mail my booklet, "Care of Refrigerators." Every woman should have a copy of this valuable book.

C. H. LEONARD, President, Grand Rapids Refrigerator Co.
209 Clyde Park Ave., Grand Rapids, Mich. (1)

A Successful Luncheon or Dinner does not alone depend on quantity or quality. One may serve "good" food, but one's table may remain hopelessly commonplace, nevertheless.

The keen French have the precise phrase for this—"*cuisine bourgeoise.*"

But how cross the barrier?

By attending to *delicacy, distinction,* "atmosphere."

CRESCA IMPORTED DELICACIES

touch the upper limit of refinement and daintiness. Wherever they are used they stamp the occasion with that indescribable touch of Paris, of Vienna, of St. Petersburg.

Familiarize yourself with these savorsome dainties by sending a two cent stamp for our beautifully illustrated, descriptive booklet, containing a number of rare menus and recipes.

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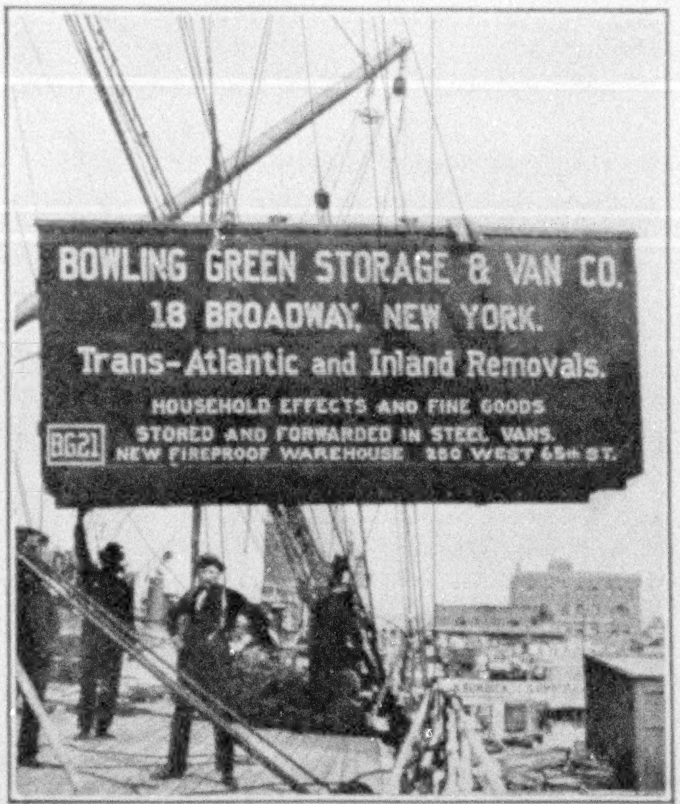
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FOUND ONLY IN

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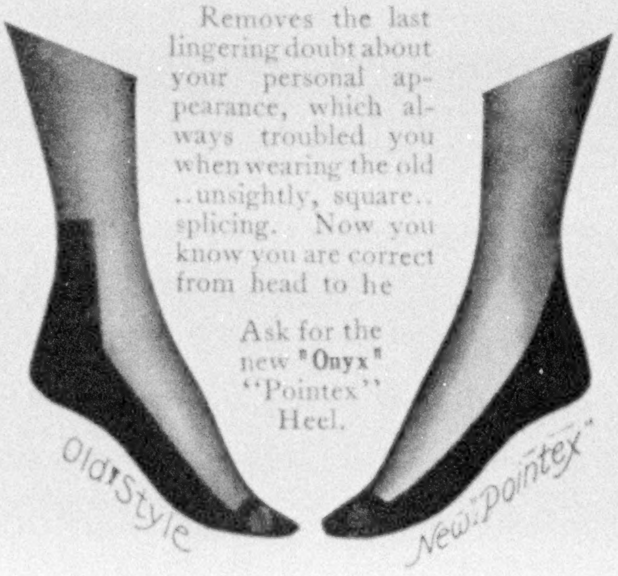

Removes the last lingering doubt about your personal appearance, which always troubled you when wearing the old ..unsightly, square.. splicing. Now you know you are correct from head to he

Ask for the new "**Onyx**" "Pointex" Heel.

Every kind from Cotton to Silk
FOR MEN and WOMEN, From 50c to $5.00

If you cannot get service at the dealers from whom you always buy "ONYX" Hosiery, write us (Dept. N. G.) and we will help you.

Wholesale *Lord & Taylor* **NEW YORK**

"Al. Jennings, former train robber, candidate for Governor of Oklahoma and author of "Beating Back."

This is
Al. Jennings

He says: "Jiminy! It's the Hottest, Fastest Gun I ever saw!"

"GENTLEMEN:

"I am a candidate for Governor of Oklahoma and no longer an outlaw. I am, therefore, returning your Savage Automatic Pistol, as I shall never need such instruments any more.

"I could not resist the temptation of trying the vicious little thing and Jiminy! it's the hottest, fastest gun I ever saw.

"I have never used anything but a forty-five. In the wild days of the past, I have kept a tin can rolling until there was nothing left.

"I rather hate to confess that this little devil has got the poor old forty-five skinned a hundred ways. It sure is some gun. My wife wanted to keep it to guard our home, she having shot the little gun with the same accuracy as myself.

"I thank you for your good intention just the same." AL. JENNINGS.

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No practice needed to be a crack shot. Aim just as you would point your finger. The Savage bullets hit as fast as you pull the trigger—10 pulls, 10 shots. You always know by the Indicator if the Savage is loaded—a touch or a glance tells. 32 cal. and 380 cal.

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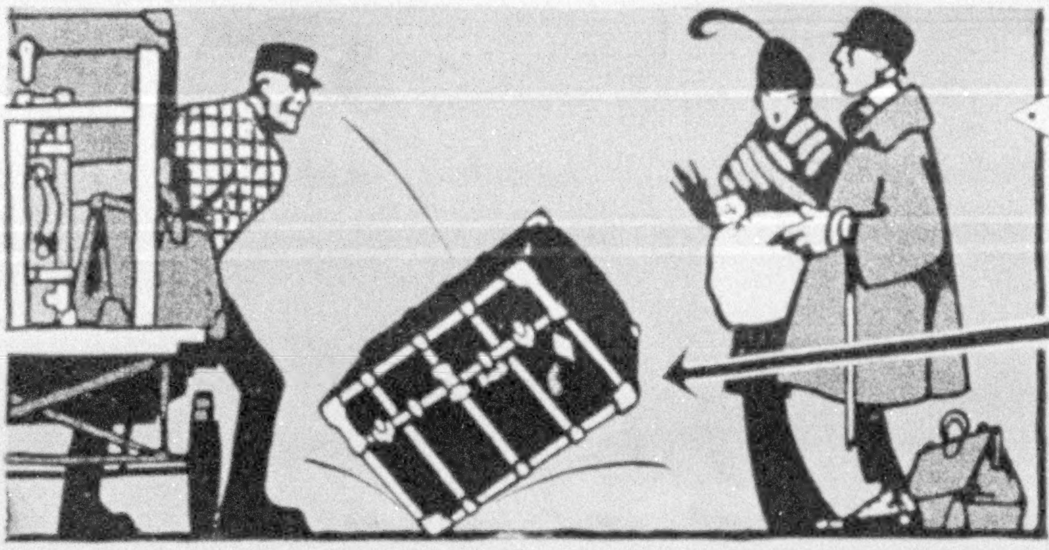
10 Shots Quick



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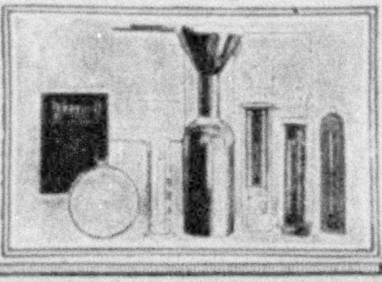

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Know the Weather The amateur weather observer can foretell approaching changes in atmospheric conditions with surprising certainty. He can also have at hand a great deal of the most interesting and instructive information about that universal topic—the weather, if he has an

S. & M. Tycos Universal Weather Set

It contains all the instruments needed by any one interested in this valuable and absorbing subject. These instruments are **Barometer, Thermometer, Maximum and Minimum Thermometer, Hygrometer, and Rain Gauge.** All the instruments in the set are of high ***S. & M. Tycos*** quality in every respect.

With this ***S. & M. Tycos*** Universal Weather Set is given a pad of charts for one year on which the records may be kept. We also furnish tables for use with the hygrometer, and a standard book of 164 pages on every weather subject—the instruments used—their construction and development. **Price Universal Set complete $20.00.**

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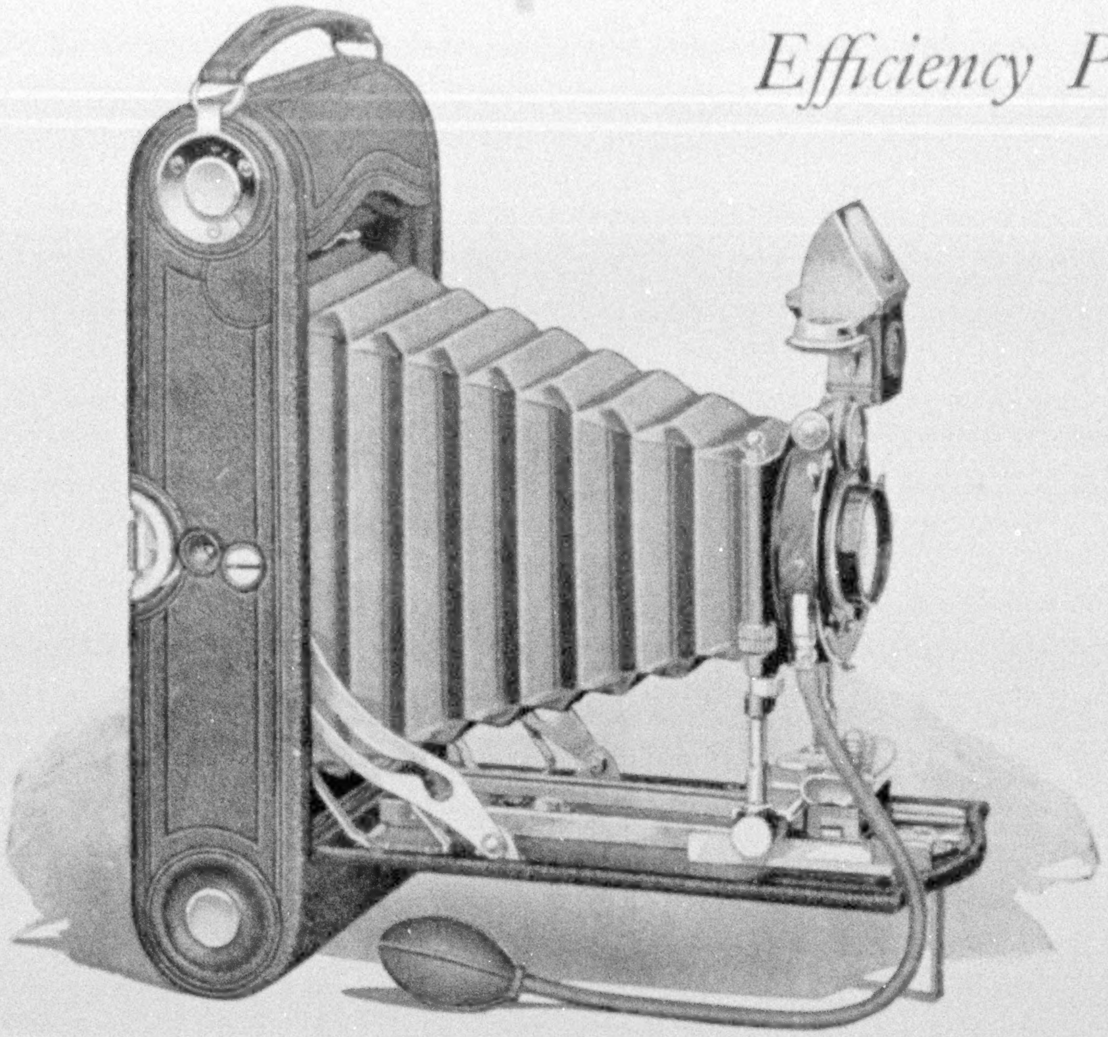

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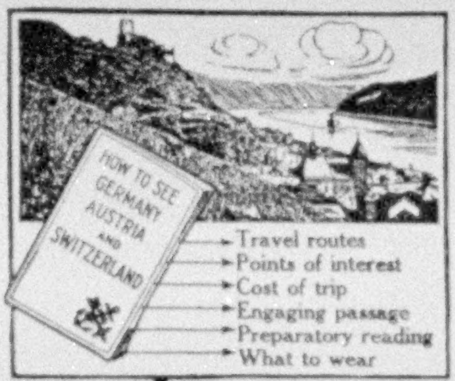
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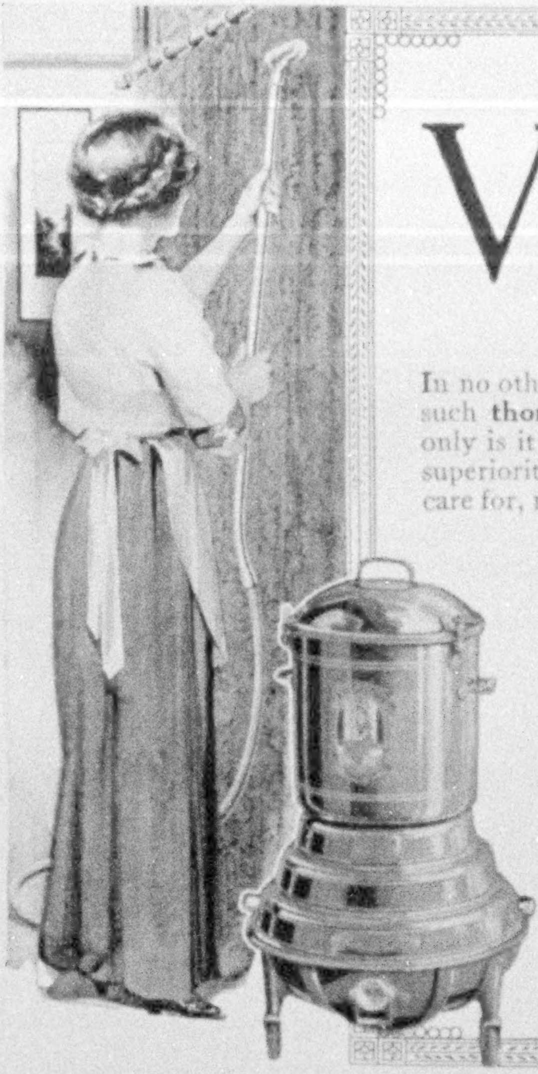

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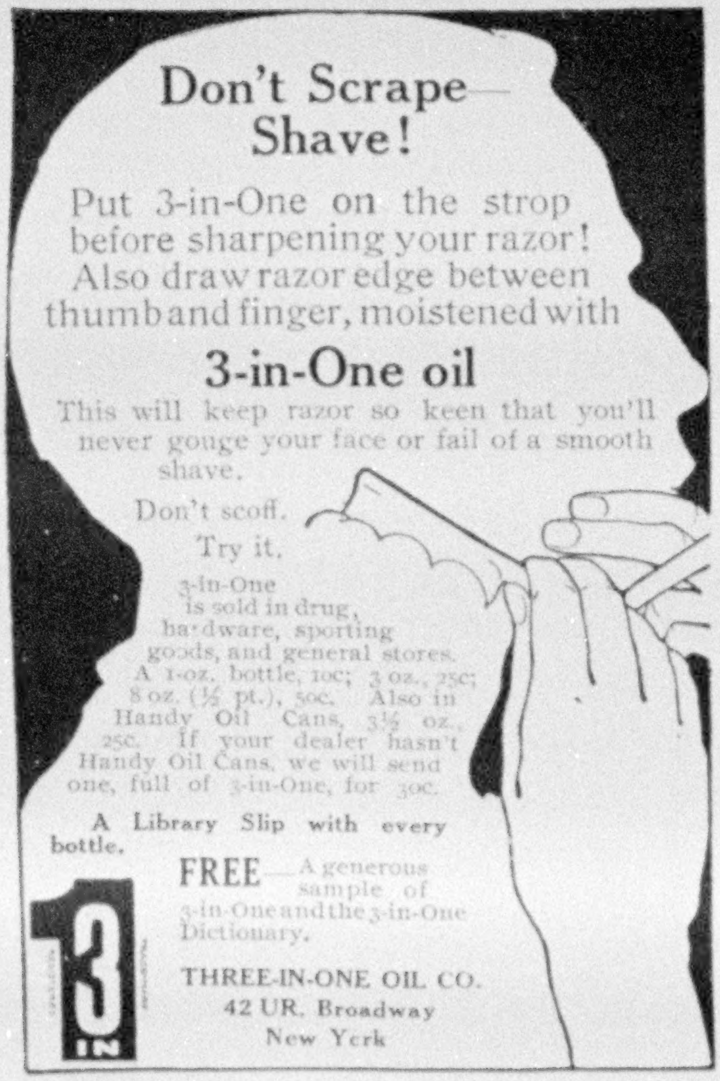

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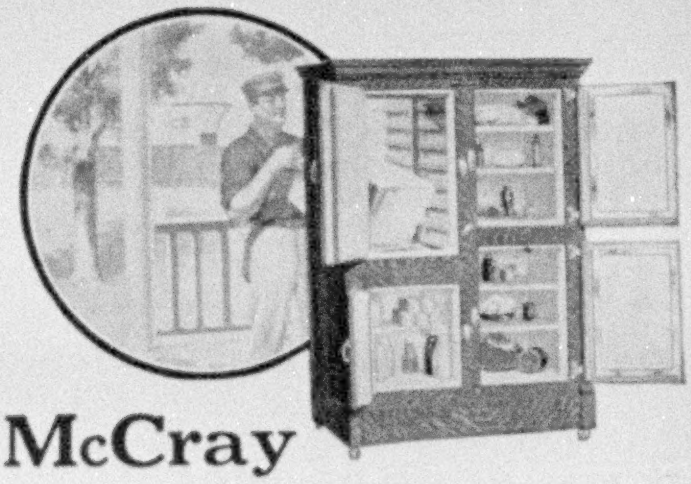

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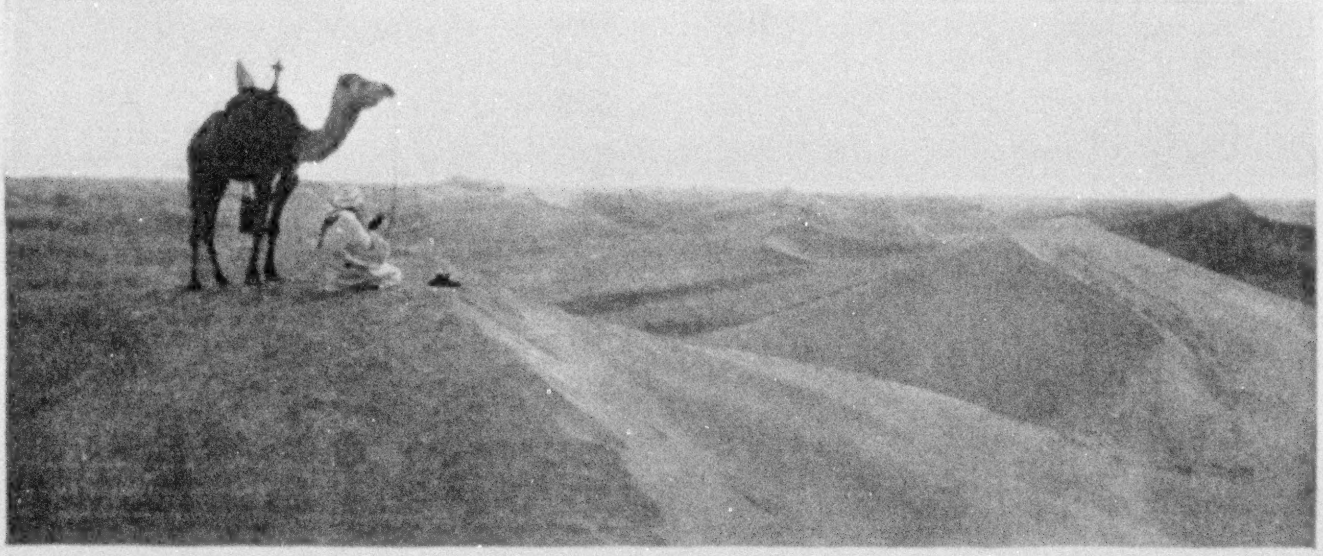

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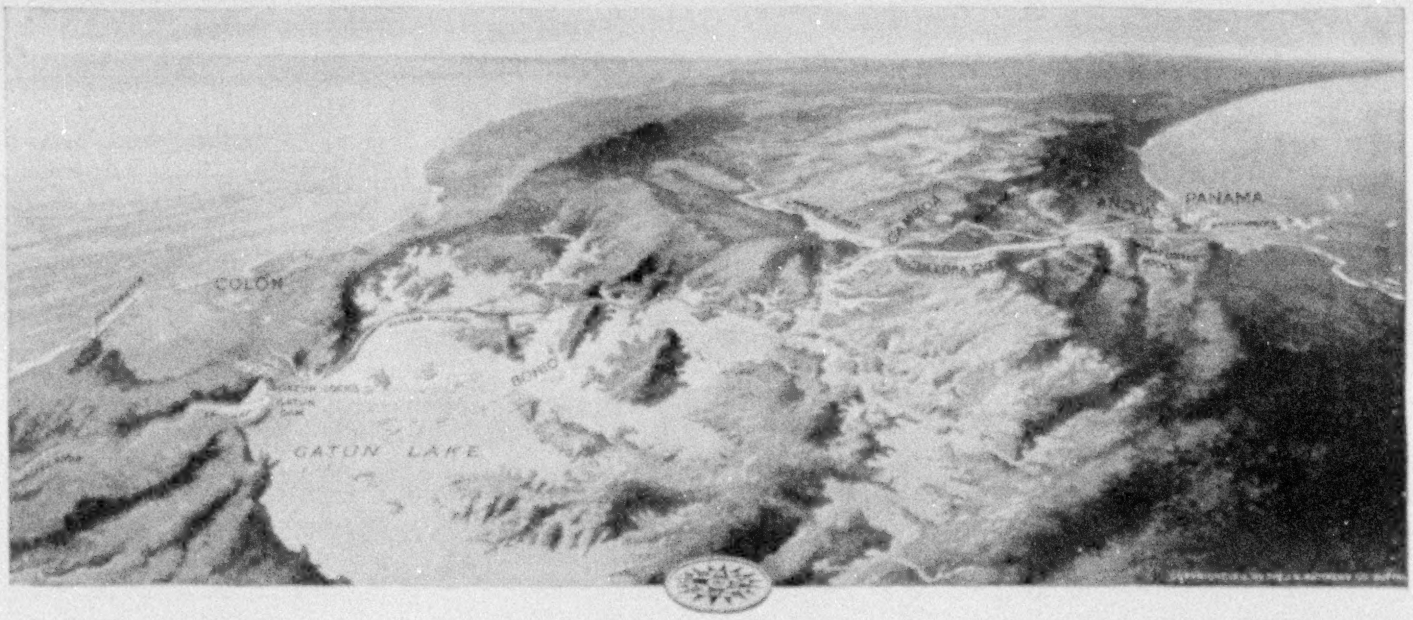

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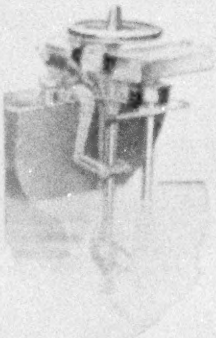

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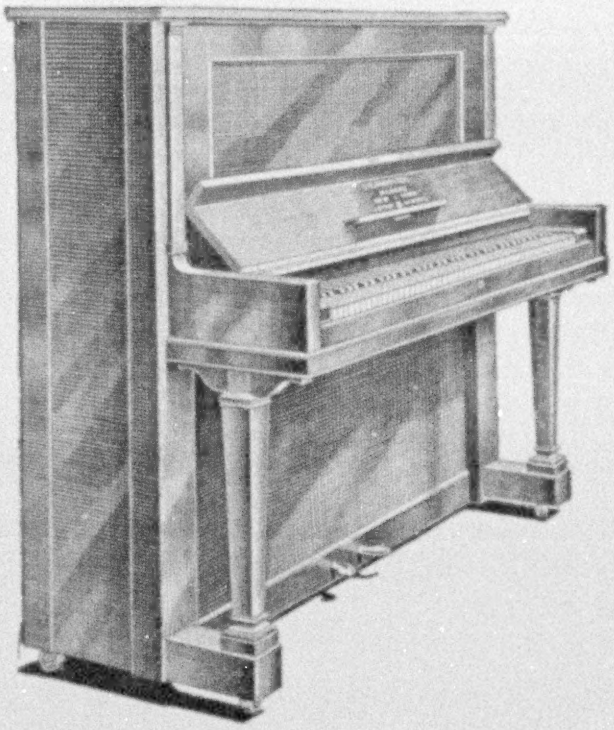

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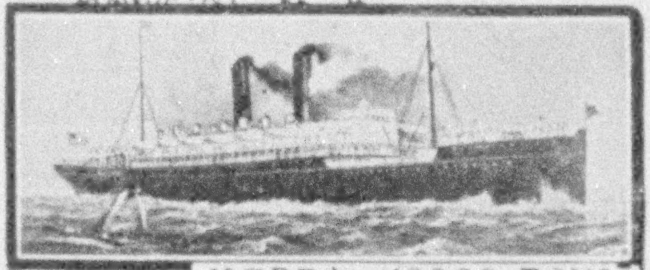

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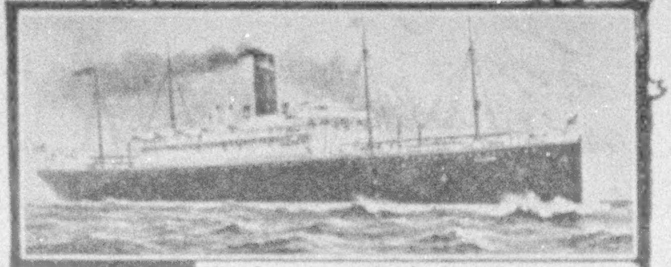

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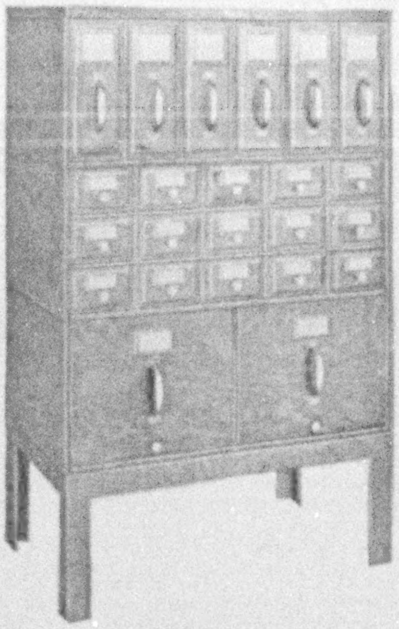

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